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"Scire est nescire, nisi id me
Scire alius sciret."

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MEDICAL ORGANISATION AND THE GROWTH OF THE MEDICAL SCIENCES IN THE SEVENTEENTH CENTURY, ILLUSTRATED BY THE LIVES OF LOCAL WORTHIES.[1]

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I AM sincerely grateful for the honour you have done me in electing me to this office, an honour which I appreciate the more when I think what great and notable men have held this chair in the past. I can only endeavour to do my best as a faithful servant of the Branch in the coming year.

I do not intend to-night to discuss the progress which has been made in the knowledge of medicine since I was a student. Nor shall I ask you to listen to a political discussion on the anxious problems of the great struggle in which we are now

[1] Presidential Address to the Bath and Bristol Branch of the British Medical Association, delivered at the Annual Meeting, held in Bristol, June 14th, 1911.

involved for our means of living and for our professional status, a struggle the results of which we cannot foresee, and about which we only know one thing, that we are determined to fight to the end and to win.

No, to-night I thought it would be a relief to turn to an old-world picture, and to ask you to consider with me the medical organisation, and the growth of the medical sciences in the seventeenth century, as illustrated by the lives of our local worthies. It was a century of the greatest importance in the history of medicine on account of the brilliant development of natural science and medicine in England at the time. In certain respects it is nearer to us than the eighteenth century from the extraordinary interest then felt in scientific subjects, the use of the inductive method of study, and the rapid growth of the physical sciences, which then, as now, gave us more facts than could be utilised at once in the healing art. The acquisitions of physiology were, perhaps, actually greater than those of the nineteenth century, for in a brief space of time the main facts of the circulation, digestion, respiration and secretion were discovered. The world had to wait for a hundred years before great additions were made. On the other hand, the organisation of medical practice was singularly unprogressive, and provision for public health was barbarous.

Let us take this side of our subject first. The age was not much behind our own in the joys and profits of quackery, but there were many highly-qualified men, and to protect the public certain corporations were authorised to grant licences to practise after examination. These were (1) the Universities ; (2) diocesan officials ; (3) certain great guild companies in London, Edinburgh, Bristol and other cities ; and (4) the Royal College of Physicians. Again, we must remember that there were four classes of doctors—physicians, apothecaries, pure surgeons and barber-surgeons. Mr. Harsant,[1] speaking of a little later date, tells us that there were in Bristol five physicians, nineteen surgeons, thirteen barber-surgeons and twenty-nine apothecaries.

[1] *Bristol M.-Chir. J.*, 1899, xvii, 297.

The Physicians were originally University graduates, scholars indeed, yet badly trained in their profession. During the later Renaissance they had gained the benefits of organisation. For Linacre, after studying in Italy, rose into high favour with Henry VIII, and representing to him the enormous advance of medicine abroad, pleaded for a great English foundation, and the Royal College of Physicians was the result in 1518. Linacre's belief in the new learning and Greek medicine led him to restrict his college in some degree to men from Universities, and ever since its members have been distinguished for their literary attainments. I shall speak later on of certain Bristol physicians in this century who helped in the development of medicine; but others must be commemorated, such as John Counsell, Jeremy Martin, John Deighton, Richard Baskerville, William Gibbes (physician to Henrietta Maria) and Charles Thirlby. In the troublous times of the Civil War ministers of religion, when their party was defeated, often studied again and qualified as doctors. Thus we find practising at Bristol Francis Cross, an ex-Fellow of Wadham, and Ichabod and Robert Chauncey, sons of the first President of Harvard. Ichabod was for a time a Parliamentary Army Chaplain, and while practising medicine here later on was banished the country in 1684.

The apothecaries were at first simply grocers dealing in drugs, and subject to the inspection of the College of Physicians. In London James I formed them into a separate company in 1624, but I can trace no organisation of them whatever in Bristol. About the middle of the century they found an opening for practice in applying the fashionable blisters and enemata. They soon grasped much of the physicians' visiting work, merely calling in a physician when all else failed. As they could not legally charge for advice before 1858, and as the fashion for drugs increased they were led into inflicting on the sick immense quantities of medicines, each dose often put up in a separate bottle with a long white label. Like other craftsmen, they served a seven years' apprenticeship, and could then get the freedom of the city and the right to practise in it,

subject originally to inspection by physicians and diocesan officials. Many of the Bristol apothecaries were men of considerable standing. Day, Harris, and Dale were sheriffs, Millecheape helped to analyse the Hot Well waters, and in later days the wealthiest general practitioners were apothecaries.

The barber-surgeons' story will be best understood if I take first their history in London. This curious combination of callings is often said to be due to a law of the Church in 1163 forbidding priests to practise surgery, but as she also often forbade them neglecting their work to gain wealth as physicians the story is doubtful. It is probable that barber-surgeons arose first as the keepers of medicinal bathing-houses, or as we should say private sanatoriums, which were in great favour at one part of the Middle Ages. These bath-keepers naturally took up some sort of massage, bleeding and dental work as well as shaving and perfuming their clients. In London the barber-surgeons existed before the time of Edward II, and their society became one of the city companies with a share in the government of London They obtained a charter from Edward IV, and the power of examining and inspecting surgeons. Even then there was a distinction between the members practising surgery and those practising barbery. Now side by side with this company was a small guild of pure surgeons which had grown up during the Hundred Years' War, " men of the long robe," as they were called. Their society, too, had obtained some official recognition, and on the whole worked harmoniously with the barber-surgeons. At last, in 1540, an Act of Parliament united the guild and the city company, and gave them full powers of licensing surgeons in and around London. They rose to the occasion and instituted (1) weekly lectures on surgery, some of which have continued to the present time, together with (2) examinations and (3) dissections, ordering that members which practised one craft should abstain from the other. This curious matrimonial union of surgeons and barbers went on till 1745, and did very good work until the surgeons seceded, formed again a society of their own, and finally got a charter for the present College of Surgeons in 1800.

Now in Bristol we find an imitation of the London system, but as the Company of Barber-Surgeons here was not strengthened by an Act of Parliament they had only the powers of a mediæval corporation, and when the companies fell into disrepute in the eighteenth century for restricting trade they shared in the general destruction.

The earliest mention of them is in the *Little Red Book of Bristol*, where they appear as barbers pure and simple. In 1395 the municipal authorities, with the consent of the Company, closed their shops on Sundays, except for strangers suddenly coming into the city, and on six Sundays in the autumn, and on Christmas Eve if that fell on a Sunday. In 1418 it was laid down that since ignorant people, such as carters and smiths, daily carry on this craft, no one henceforth may poll or shave except members of this guild, provided that a man's own servant may poll or shave him in his house, and that two servants dwelling together may poll or shave each other. No apprentice may be taken for less than seven years.

Again in 1439 the mayor, sheriffs and goodmen of the city confirm the rules of the Guild Company, and impose fines on offenders. Hence it had a clear legal status for the future.

Then follows a long blank in their history. Mr. Francis Fox, however, has kindly allowed me to see some MSS. in his possession from which important facts are to be learnt. First it is clear that at some unknown date surgeons were definitely included as in London, and apparently provision was made for their instruction. At any rate, in 1652 the Common Council of the city declared that whereas "the Company of Barbers and Chirurgeons" had been anciently incorporated, though some of their charters were even then illegible, they shall be established and ratified, and have power to make ordinances, and to buy and hold lands. No one shall be allowed to exercise the craft unless he be free of the city. As to the barbers, they were forbidden to carry on their trade on the Sabbath; and as to the surgeons, no one of the Company or city shall take in hand a cure until he be allowed by the Company to be a sufficient

workman, skilful in the art of surgery, and made free of the said Company, except in a time of extremity when no chirurgeon can be found, or it be done gratis to a poor body.

No chirurgeon shall take a case out of another's hand or before such time as the first holder of the case be satisfied and contented for his pains, *i.e.* his bill is paid. The same to be judged by two persons. All persons of the Company who take in hand a cure shall do their uttermost, and give due attendance to the best of their power and skill until the cure is ended, under a penalty of £5.

No person shall undertake to cure a wound or grief which is in danger to lose life or limb before he acquaint two or three of the chiefest and most skilful therewith, who may view the same cure before he take it in hand.

If any poor or impotent person of the city shall have cause to use the help of a chirurgeon, the master shall appoint a sufficient man to cure him. After the cure is ended the chirurgeon shall send in a true bill of charges, and the mayor and two aldermen shall determine what the person shall pay for salve and medicine. The chirurgeon to do such a cure gratis if the person be unable to pay for the same.

Every surgeon entering for a voyage as surgeon of a ship of the port shall have his chest examined by the master and two others, that it be well furnished with all things necessary for the said voyage.

In 1672 another ordinance is found in the MSS. regulating the number of apprentices.

Thus we see that there was at this time a powerful society governing the practice of surgery in Bristol. It is commonly said that their Guild Hall has vanished, but only this week, by the help of Mr. John Pritchard, I discovered it still existing in a dismantled condition, and forming the upper part of the Bunch of Grapes Inn in Exchange Avenue. The great hall for meetings was probably on the first floor, and over part of an old timbered room on the second floor a glazed dome with a rose in the centre looks down on the scene of the vanished past. Tradition still asserts that this room was the anatomical

theatre, and that the bodies were raised and lowered from a hook to be seen in the middle.

The barbers and surgeons, however, determined on a divorce as in London. In 1739 a petition was presented to the Common Council by the barbers complaining of the impositions and grievances inflicted on them by their surgical brethren. That petition remains unanswered to the present day. The company last appeared in public in 1742, but the surgeons quietly seceded, and the hall was let that year to Mr. Andrew Hooke, and became the West India Coffee House, a well-known resort of the eighteenth century. Ten years later the last surgical member, Mr. Rosewell, died in All Saints' Lane, April 18th, 1752. In place of the old teaching Mr. John Page, a leading surgeon, and Mr. J. Ford started a private course of anatomy in 1744, and again in 1746. Now that the rule of the Company was at an end, the name of barber-surgeon was used by anyone. Hence, probably, much of the contempt with which they were spoken of in later days.

Another portal to medicine arose from the licensing power vested in the bishop of each diocese by the Acts 3 Hen. VIII and 14 and 15 Hen. VIII, which also appointed medical assessors (four in London) to examine the candidates before the bishop granted his licences. No authorities have so far been able to trace these licensing and disciplinary powers to mediæval times. Taken in conjunction with Henry's Charters to the Physicians and Barber-Surgeons, these Acts possibly point to a great scheme which he formed for the complete organisation and reform of medicine, long before he attempted to reorganize the Church. The bishops had the machinery at hand in their visitations, which no other persons had, for searching out irregular practitioners in every parish. Their powers were not a dead letter, for in more than sixty visitations in the seventeenth century[1] I found that inquiries were ordered as to what ignorant persons without a licence from a University or the Ordinary had taken on themselves to practise medicine or surgery. Thus Abbott in 1612 asks how many physicians,

[1] Blue Book, 1868 : Appendix on Injunctions, Visitation articles.

chirurgeons, or midwives there were, and what were their qualifications, skill, and behaviour. Goodman and Laud in 1634 and 1640, and Ironside in 1662, made similar inquiries, and prosecuted offenders in the Bristol diocese, as Mr. Hockaday pointed out to me. There has been discussion too as to how the powers of the bishop and of the barber-surgeons in London worked together. In Bristol an active vicar-general tried in 1670 to make even the barber-surgeons themselves take out licences as well as irregular practitioners. The Company appealed to the Common Council, and the attempt was stopped.

I have made considerable search to find out how numerous the episcopal licences in Bristol were, but the records are very defective. One licence, quoted by Latimer, grants to John Cooper, as late as 1745, the right to practise medicine, mentioning his long experience and his treatise on diabetes. Another, in the possession of our present Bishop, grants to an apothecary, Edmund Tucker, in 1672, a licence in medicine and surgery. There is a licence also to John Hall, of Gloucester, in 1634 for surgery, and a petition from J. Craighton for a similar one. Possibly, where an active Barber-Surgeons' Company existed the demand for the bishop's licences were less than elsewhere.

Medical attendance on the poor was unorganised. There were indeed two or three London hospitals, and Abbot Feckenham, after thirty years of imprisonment, had founded a hospital at Bath, which with Bellot's and Ralph Allen's later gifts, led to the present Mineral Water Hospital, but elsewhere hardly a hospital existed. The Dispensarian Controversy, which many poets and pamphleteers discussed about 1687, points to the needs of the day. The College of Physicians had voted that its members should give advice gratis to their neighbouring poor in London, and for seven miles around. The poor found the cost of medicines prohibitive, and some of the physicians opened a dispensary where drugs were sold at cost price. Other physicians, disliking the plan, refused to meet the founders in consultation, and the apothecaries refused to call them in, while a section of the latter offered to sell drugs

to the poor at a low rate. The law courts finally decided against the physicians' dispensary.

St. Peter's Hospital.—In Bristol the cost of maintenance of paupers had become very great, owing to the loss of the cloth-making trade in the Temple Parish, and other causes. John Carey proposed a scheme for a common fund for the whole city, and a single poor-house. This was finally confirmed by an Act of Parliament in 1696. The scheme combined voluntary contributions with rate aid, and on the whole was a striking success. Other places imitated Bristol, and finally Poor Law Unions became universal under Gilbert's Act.[1] The old Bristol Mint and a place called Whitehall were purchased to house the people. Local philanthropists subscribed largely, among whom we find Dr. Edward Tyson, then living in London, and our present general poor-rate was started. The first honorary physician was Dr. Thomas Dover, and after him are many great names such as Randolph, who wrote on the Hotwells, and later on Drs. Woodward, Hardwick, Broughton, Cowles Prichard, Fox, and William Budd. Besides an apothecary, there were honorary and paid surgeons, of whom the earliest were Messrs. John Webb, Sandford, and Deverel. In later times such men as Metford and Nehemiah Duck should be remembered. It is amusing to learn that one quarrel with the governing body related to the right of the staff to make *post mortems* on persons dying in the institution. Two of the staff resigned, but a reasonable agreement seems to have been come to.

A Mrs. Dagg was appointed midwife, but she was to call in a surgeon in difficult cases, and the surgeons were to take any and all cases if they wished, it being laid down that Mrs. Dagg's appointment was only to save them trouble. Ringworm, as now, seems to have taxed the skill of the physicians and surgeons, for Mrs. Case was granted five shillings in 1702 for curing "scruffy heads." Mr. Godfrey, too, had a special fee in 1700 for "curing the broken belly" of a man who had lifted a heavy weight; and in 1703 a minute records

[1] Johnson's *History of St. Peter's Hospital.*

that not more than twelve patients suffering from the King's Evil should be sent under the care of a surgeon to Bath to be touched by Queen Anne. This was one of the last occasions when this treatment was available, as the ceremony ceased when she died. Wiseman tells us that about 100,000 persons were touched by Charles II, which cost that impecunious monarch some £10,000 a year.

Dr. Thomas Dover, born 1663, the son of a Warwickshire squire, is one of the most striking characters in Bristol towards the end of the century. He graduated at Oxford and migrated to Cambridge, where he took his M.B. in 1687, after living for a while with Sydenham as pupil. During his pupilage he had the small-pox. Sydenham bled him, and kept him in a room with open windows and no bedclothes higher than the waist, as his custom was.

When recently qualified Dover came to Bristol, where, as we have seen, he was made honorary physician to the new St. Peter's Hospital. He says, "For the encouragement of that good and charitable undertaking I engaged myself to find them physic and to give them advice at my own expense and trouble for the first two years." Typhus or typhoid fever was then raging, and he adds that he visited twenty-five to thirty patients a day, besides "the 200 children in St. Peter's, who nearly all had it, though only one died." [!] He had the audacity to employ the cold bath treatment for a moribund patient, a grocer's apprentice in Wine Street, keeping the man in for a quarter of an hour, after which he recovered completely.

In 1708 he invested capital in Woodes Rogers's expedition to the southern seas, and went himself as second in command. Dr. Nixon[1] remarks that he made himself, as was his wont, an extremely cantankerous travelling companion. Woodes Rogers said his temper was so violent that capable men could not well act under him. However, they came back with enormous gains, and brought with them Alexander Selkirk. I often think what an amusing party he, Selkirk and Defoe must have

[1] *Bristol M.-Chir. J.*, 1909, xxvii, 31.

made at one of the Castle Street inns. Defoe was by turns a hosier, brickmaker, and politician, the most voluminous journalist and novelist in history, a little dark-complexioned man who had been out in Monmouth's Rebellion, the best story-teller in Europe, mobbed in Edinburgh by a home rule crowd, pilloried, and in fact the Mr. Stead of the time.

One of Dover's favourite remedies for various disorders, such gout and asthma, was crude mercury, even an ounce a day for years together. Hence in derision he was called the quicksilver doctor. His fame to-day rests on his celebrated powder, which is used as much as ever. He cherished warmly the memory and teaching of his master Sydenham, and showed considerable knowledge of his art. It is curious to find him quoting Bacon side by side with unctuous letters from grateful patients and furious diatribes against his fellow-physicians and apothecaries, whom he accused of combining to order useless drugs so that the apothecary might run up a bill of £40 or £50 for a single fever.[1]

I have said that a brilliant development of the medical sciences took place in the seventeenth century, and I want to point out the remarkable share taken in it by men of this district. Some five or six different lines of research and possible advance had appeared as early as the Renaissance, and were now bearing fruit, but the time for co-ordination was not yet.

The chief lines of research were :—

(1) The study of Greek medicine and literature, which after being a closed book for centuries, was suddenly thrown open, and led to a great advance in the therapeutic art.

(2) Traditional anatomy was discredited and a new science built on actual observations was steadily developed.

(3) Chemistry, too, sprang into existence, and as it grew was found capable of explaining many things in physiology and medicine.

(4) The astonishing advance in physics and mathematics led many thinkers to believe that the best way to attack

[1] *The Antient Physician's Legacy to his Country.*

physiological and medical problems was through the laws of mechanics. Hence the mechanical theories of physiology and pathology.

(5) The discovery of America gave an impetus to the study of botany and the investigation of many new drugs, such as quinine and guaiacum, as possible specifics.

(6) Lastly the study of clinical medicine, the minute observation of symptoms and the collection of the histories of diseases commended itself to a group of able men as the best method, since the age was clearly not ripe for many applications of the physical sciences.

Let us consider these schools separately, and first the influence of classical and especially of Greek studies. It is curious to note how early local men had come to the front in this. One of the very earliest Grecians was John Free, the son of Bristol parents, who took his degree at Balliol in 1449. He was presented with the rectory of St. Michael's in Bristol, *i.e.* possibly the greater tithes, but the Bishop of Ely sent him and his friend Gunthorpe, like two Rhodes scholars, to study in Italy. He became finally a great teacher of medicine at Florence, Padua and Ferrara in succession, where crowds of picked students from the rest of Europe were gathered. Very few of his writings have come down to us, but it is known that besides his lectures he translated a treatise by Synesius, and at length Pope Paul II, in recognition of his brilliant talents, gave him the bishopric of Bath and Wells, which he did not live to occupy.

Another local man to whom the revival of Greek learning was largely due was the celebrated Grocyn, said to be a Bristolian, but certainly born at Colerne, near Corsham. When Fellow of Merton he was the first teacher of Greek at Oxford, and in 1488 went to Italy for two years and studied, along with Linacre and W. Latimer, under Chalcondyles. So many of the leaders in medicine and theology were trained under him at Oxford that Erasmus speaks of him as the patron and preceptor of us all.

I need not describe how the revival of Greek medicine was

carried out by Linacre, Caius, Clement, Baillot, Wotton and the other early members of the College of Physicians. One of the group, Dr. George Owen, the royal physician in three reigns, who is credited rightly or wrongly with performing Cæsarean section at the birth of Edward VI, was either a Bristolian, or in some way connected with the city, to which he became a great benefactor.[1] Henry had given him the spoils of St. Catherine's Hospital in Bedminster, but Owen, when it was safe to do so after the king's death, gave back these lands to the poor of the city, and they now yield £1,500 a year to the Trinity Almshouse.

In the seventeenth century a knowledge of Hippocratic medicine and of classical literature had become the property of the best physicians of every school. Among local men we find Robert Welstead, an M.D. of Oxford and Fellow of the Royal Society, practising at Bristol. He translated Longinus, and wrote various treatises, such as the *De medicina mentis* and *De adultâ ætate*. Musgrave, of Exeter, perhaps the greatest antiquarian of the age, was also Fellow and Secretary of the Royal Society, and wrote various works on joint diseases as well as the *Antiquitates Belgicæ*.

The Anatomists.—During the Renaissance period the revived anatomy led to the discovery of new worlds in the microcosm of the human body almost as important as the finding of the new world of America. Vesalius, says Withington, saw that it was useless to go on correcting Galen, and that anatomy must begin afresh. Varolius, Eustachius, Fallopius and Fabricius rapidly raised the new science to importance in Italy. Servetus and Vesalius did the same in France. Vicary popularised the study in England, and regular dissections became the rule, but the immortal Harvey and many others went direct to Padua to drink at the fountain-head. After Harvey's *Anatomical Exercise on the Motion of the Heart and Blood in Animals*, 1628, a crowd of Englishmen carried on the work, such as Cowper, Havers and Wharton.

I would ask your attention, however, to a little group of men from this district who were prominent in research. First let

[1] Author of *A meet diet for the New Ague*, 1558.

us recall G. Joyliffe, a Dorsetshire man, one of the co-discoverers of the lymphatics, together with Bartholini and Rudbeck, in 1651. He announced at once to Glisson what he had found, but did not publish anything on it himself.

Francis Glisson was also a Dorsetshire man, and his grandfather Walter a citizen of Bristol. This *Omnium anatomicorum exactissimus*, as Boerhave called him, became Reader in Anatomy and Regius Professor in Cambridge, and was the first English writer, as Benjamin Richardson remarks, to give a complete account of a particular disease, *i.e.* an account both anatomical and clinical. His *Treatise on Rickets* appeared in 1650. "The precision of his statements shows that each rests on carefully noted observations." Indeed the subject-matter had been threshed out in a medical society before Glisson put it together. He was the first to give an exact proof that when a muscle contracts it does not increase in bulk, and he originated the doctrine of irritability, *i.e.* that the power of responding to stimuli is the special characteristic of living tissue. His doctrine was developed by Haller and Cullen, and caricatured finally by Brown in his theory of excitability, and the value of stimulants, alcoholic and otherwise, for which I must refer to Brown's life by Dr. Beddoes.

W. Charlton, another anatomist, born at Shepton Mallet, followed Charles II into exile with the great surgeon Wiseman, and came back to be President of the College of Physicians. Christopher Bennet, of Wrington, laid the foundation of the pathology of phthisis by his *post-mortem* studies. His great work, *Theatri Tabidorum Vestibulum*, was the received text-book of the time. Edward Tyson, born at Clevedon or Bristol, and one of the founders of St. Peter's Hospital, in 1687, practised chiefly in London, and was a prominent Fellow of the College. He may be called one of the first comparative anatomists, from his monographs on the embryo shark, the tapeworm, the chimpanzee and the rattlesnake. One more great anatomist from this neighbourhood must be mentioned, Thomas Willis born at Great Bedwin, in Wiltshire. He bore arms for the king, and

then settled down again at Oxford to practise in a small way at first, attending Abingdon market for patients. Finally he became Sadlerian Professor. In 1661 he moved to London, and obtained a great practice and high honour as one of the greatest physicians and scientists of the time. "Anatomy, physiology, chemistry and the microscope were all now in a state to be serviceable, and Willis employed them all in his medical studies." His labours and discoveries in the physiological anatomy of the brain, cord, and nerves were enormous. The circle of Willis and his classification of the cerebral nerves among other things remain to-day as he and his collaborators left them. He was a chemist as well, and we must now turn back to the founders of—

The Chemical School.—Here another line of research had been developed, at first surrounded with occult theories and quackery, but leading to one of the most important and realistic branches of science. Basil Valentine in the early Renaissance had discovered ether, bismuth, and hydrochloric acid; and Paracelsus had an undoubted knowledge of chemistry which he mixed up with various occult doctrines. We find, too, Thomas Norton, of Bristol, like his father, Member of Parliament for the city in 1463, the author of *De Transmutatione Metallorum.* His descendant, Samuel Norton, of St. John's College, Cambridge, and Sheriff of Somerset, lived at Abbot's Leigh, and wrote several treatises on chemistry, such as *The Catholicon Physicorum.* Abroad Van Helmont, the discoverer of CO_2, showed that many of the problems of the body are chemical ones, and many of the processes going on in it are true fermentations, like the production of alcohol by yeast. Sylvius, a thorough-going chemist, referred every process, animal heat and cardiac energy included, to effervescence or a fermentation caused by the mingling of acid and alkaline fluids in the body, and disease to an excess of acid or alkali. In England even greater and more solid progress had been made. Lower, a Cornishman, showed that the difference between arterial and venous blood was due to the former taking up fresh air in the lungs; while Mayow, who spent part of his short life at Bath, showed that it takes

up only the nitro-aerial part of the air, which supports combustion in the form of a fermentation in every tissue, and is essential for every process and change. This, of course, was an anticipation of the discovery of oxygen.[1]

Willis held similar views, teaching that the blood undergoes a slow burning or combustion, kindled by the air in the lungs, and conveyed over the whole body by the engine of the heart, but that the processes in the organism are forms of fermentation, *i.e.* " an internal motion of the particles of a body leading either to its perfection or change into another form, or what we call metabolism." Disease depends on abnormal fermentations, and the physician is like a brewer whose business is to watch over the process and to correct irregularities.[2]

These doctrines led to wide controversy. Among those who entered into the fray was a Bristol physician, Edward O'Meara, the author of the *Examen Diatribæ Thomæ Willisii*, where he criticises in detail Willis' theory of fevers and some of Harvey's work. He printed with this in 1665 a number of histories of cases of Bristol people and others who came to consult him at the *Aquæ Calidæ* or Hotwells, which we have so utterly neglected to-day to our own loss and that of the city. Francis Cross, of Bristol, whom I have already mentioned, also wrote on the subject, and after taking a medical degree at Leyden practised here " with good success among the Precise party," as Antony a'Wood remarks.

The chemists, not satisfied with annexing physiology, turned their attention to pharmacy and the analysis of mineral waters. Thus we find among local names John Maplet, Student of Christchurch and a friend of Lord Falkland, who practised in the winter at the Hotwells and in the summer at Bath; Tobie Venner, the author of a *Censure Concerning the Water of St. Vincent's Rocks;* J. Guidott, the author of *De Thermis Britannicis*, 1681; R. Pierce, of Bath; and later on Caleb Parry, Falconer, and Randolph.

The Mechanical School of physiology had numerous

[1] Michael Foster, *History of Physiology*, 1901.

[2] Withington, *Medical History from the earliest times*, 1894.

followers in England at the time. The marvellous work of Newton, Galileo and Boyle had caused mechanical science to advance by leaps and bounds. Hence the recourse to the laws of statics and hydraulics. One would like to dwell on the picture of Sanctorius, surrounded with his new clinical thermometers and instruments of precision, living on his weighing platform, which showed not only the amount of food taken in and excretion, but even the great weight of insensible perspiration. His countryman Borelli, too, for the first time calculated mathematically the forces of muscular contraction, and even the amount of work done by the heart itself. All these forces, he argued, are due to explosions, which are like wedges inserted into the muscles. He even proved that the flow from the arteries to the veins is due to the elastic recoil of the former. Digestion is due to pressure and heat only. Secretion depends on the size of the molecules and the orifices of the sieves through which they have to pass. Pyrexia is not due to acid or alkaline reactions, but to a more rapid flow of the blood, caused by the blocking of certain openings by a viscid fluid. Crude as many of his ideas seem to us, the advance of physiology was enormous, as Michael Foster remarks, and English writers like Pitcairn carried on his method with effect.

William Cole, to whom Sydenham's treatise on small-pox was addressed, was one of the most able of these, and is said by Baas to have lived at Bristol for some time. He wrote on animal secretion and the mechanics of intestinal peristalsis, and advanced a curious explanation of intermittent fevers as being caused by the temporary deposit of abnormal material on the roots of the nerves.[1] We should call this a stimulation of the heat centre by local irritants. Perhaps his greatest contribution is his discovery of the gradual expansion of the arterial tree, from the aorta to the capillaries.

We see, then, that two great attempts were made at this time

[1] William Cole, "Novæ Hypotheseos ad explicanda Febrium Intermittentium symptomata," and "De Mechanicâ ratione Peristaltici Intestinorum motus" 1676.

to solve the problems of disease on purely material lines, the chemical and mathematical. The wonderful group of scientists who founded the Royal Society raised the hopes of men that on these bases a new and firm foundation for medicine might be laid, but their science was not yet perfect nor their instruments complete. Still, the dawn of modern realism, the birthplace of the exact method is seen in this brilliant development of natural science and medicine in England in the seventeenth century.

The Clinical School was in a sense the revival of the Hippocratic method. Exact and minute observation and faithful records of cases had been attempted by a few men, such as perhaps John of Mirfield; Hall, the son-in-law of Shakespeare; and above all Mayerne, who has left us minute details of the fatal typhoid of the Prince of Wales in 1612, and of the physical condition of James I. Twenty-three volumes of his notes have been preserved to this day.[1] But the first to seek general laws as to the course and treatment of disease from clinical observations was Sydenham. He rarely refers to the opinions of others except to those of Hippocrates, but aims at (1) a collection of histories (to use Bacon's phrase) or descriptions of diseases as exact as those in botany, separating them into their several species; (2) a fixed method of treatment founded on experience; (3) a search for specific remedies, which he thinks are probably numerous. A reaction from anatomy and allied sciences was to be expected, for it was clear that they could not yet explain the whole of disease or give the power to control it. Sydenham complains of those "who pompously and speciously prosecute the promoting of this art [of medicine] by searching into the bowels of dead and living creatures." It is true that in acute diseases, which Sydenham chiefly wrote on, there is something which ordinary anatomy will not explain, yet, as Payne says, we now admit this specific factor and call it a microbe. But in organic diseases, in dropsy and disturbances of the circulation, anatomy and physiology are all-important. Again, it might be said that for a cavalry

[1] Norman Moore, *History of the study of Medicine in the British Isles*, 1908.

officer like Sydenham, turned doctor, the drudgery of chemistry and anatomy would be specially distasteful. Indeed, the tendency had been always great for physicians and surgeons to throw over the rougher parts of their work to apothecaries and others, and I hear someone remark that the same thing exists among us to-day. However, if he, like his contemporaries, was one-sided, the lesson most needed by the age was the necessity of observing and recording facts as they really are, of avoiding hypotheses based on theories instead of facts, and of giving the healing power of Nature full play under careful management. Many of the best men of the day developed his method.

I have not time to sketch the life of Sydenham himself. Suffice it to say that he came of a Somerset family, members of which fought on either side in the Rebellion. Born in Dorsetshire, he fought long and well for the Parliament, his mother and two brothers were killed in the war, and his eldest brother was made Governor of Bristol. No man probably from this district has influenced European medicine so much as he has done.

One more local worthy must be mentioned, a warm friend and follower of Sydenham, the immortal John Locke, best known for his essay on the "Human Understanding," but also a practitioner of physic. His father practised here at Pensford as an attorney, and John was born in 1632, while his mother was on a visit to her brother at Wrington. He went to Westminster and Christchurch, and had an ample income from his Fellowship and his estate in Somerset, so that he died possessed of £45,000. He became an assistant to an Oxford practitioner, and then lived for years as medical adviser to Lord Ashley, on whom he operated for a hydatid cyst of the liver. This he opened and drained by a silver tube, which, being kept in permanently, became the talk of the day. Many notes of his other cases have survived. He wrote, too, on Sanitary and Poor-Law Reform, and was for some time Commissioner of Trade and Plantations. It is curious to find him, like Sydenham, advocating open-air exercise in phthisis.

In conclusion, you will ask what is the use of all this story of

the past, this raking-up of the anatomies of dead men. First, I think, we see what gigantic problems may be solved by persistent effort. We, too, have wide fields to explore—cancer, apoplexy, neural and renal disease, for which we can do very little; but the men of the seventeenth century, with fewer resources, overcame even greater difficulties. Next we realise that medical education and practice must be organised. Even now vast masses of men, as Mr. Lloyd George tells us, are practically without medical care, and as to the rest no organised register of each man's diseases through life, not to speak of his family history, exists as a rule. We are left to the patient's vague recollections. Finally, we learn that though medicine rests on the subsidiary sciences, it is more than one or all of them. One-sided specialism did not then and cannot now produce a therapeutic art of any value to mankind.

THE END-RESULTS OF OPERATIONS ON THE STOMACH AND DUODENUM.

BY

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THE conclusions embodied in this article are drawn from a study of the records of all the stomach cases treated in the surgical wards of the Bristol Royal Infirmary during the years 1902–10 inclusive.

The number of patients under consideration has been 165, out of a total of 19,412 treated in the surgical wards during the same period.

They may be classified as follows, according to the result of investigation:—

Subsequent information obtainable ..	75
Lost sight of	30
Died	60
Total	165

The cases followed have all been communicated with not sooner than four months after the operation ; all except two have been traced for more than six months, and the great majority give a history extending over several years since they left the Infirmary. I hope, therefore, that this may be accepted as a disinterested report on an adequate number of cases, followed sufficiently long after the operation to give reliable indications. The after-histories were obtained in most cases by correspondence, but a few have been seen and examined by me personally.

The morbid conditions represented are as follows :—

61 cases of perforated gastric or duodenal ulcer, with after-history	51
33 cases of cancer of the stomach, with after-history	24
41 cases of gastric or pyloric ulcer, with after-history	35
12 cases of symptoms, but no ulcer found with after-history	10
6 cases of duodenal ulcer, with after-history	5
7 cases of hour-glass stomach, with after-history	7
7 cases of hæmatemesis, with after-history	6
2 cases of perigastric adhesions, with after-history	1
1 case of congenital stenosis of pylorus, with after-history	1

The two columns of this table present five more in the total than the figures given in the previous table, because five

patients with perforated gastric ulcer treated by primary or secondary gastro-jejunostomy are counted twice.

The outstanding feature of the whole is the extraordinary value of gastro-intestinal short-circuiting for ulcer of the stomach or duodenum. A whole budget of letters was received speaking in terms of enthusiasm of the relief obtained. More than thirty patients had not a symptom to complain of, and could, as many of them said, "eat anything, and enjoy it." Most of these had previously spent months or years in continual misery, only partially alleviated by washing out, restricted diet, prolonged rest in bed, and medicines. Several of them write that "the operation has made a new man of me." It would be difficult to find any surgical proceeding in which the change from chronic distress and daily disability to perfect health is more marked or satisfactory. We shall have to speak later of some of the failures and dangers of gastric surgery, but these must not be allowed to obscure the remarkable benefits conferred on the great majority of the sufferers. One cannot help thinking that in many of the cases the symptoms had been allowed to go on far too long.

Another remarkable feature is the occurrence of so many cases diagnosed clinically as gastric ulcer, but presenting no signs of the condition on the operation table. This relates not only to five patients with severe hæmatemesis, but also to a dozen others, whose symptoms had been indistinguishable from those of genuine organic trouble. In two of them the stomach was notably dilated. It is hard to explain why they suffer so severely, and we are not yet able to make a diagnosis before operation, which, however, does not matter much, because even in these cases gastro-jejunostomy generally brings relief.

A third point of interest is the association of gastric ulcer, or symptoms of gastric ulcer, with movable kidney. Of thirty cases of movable kidney treated by operation at the Infirmary during ten years, three also appear in the present lists, and a fourth has been treated in a medical ward for gastric ulcer since her kidney was fixed. In one case (A. M.) the kidney was fixed twice, without relief, before the girl was finally cured by

gastro-jejunostomy. In another (E. K.) a patient two years after kidney fixation was admitted dying of perforated gastric ulcer. In the third case (K. C.) the nephrorraphy was completely successful for years, and then a gastric ulcer formed. In a fifth case (F. A.) no operation was performed on the kidney, but it was very freely mobile when the patient was under treatment for stomach symptoms. It is possible that the reflex hyperchlorhydria which is produced by almost any chronic abdominal condition is responsible for the formation of the ulcer.

PERFORATED GASTRIC OR DUODENAL ULCER.

There have been 61 cases of perforated gastric or duodenal ulcer; in two of these no operation was performed (G. P. was not diagnosed, and L. M. was admitted dying); in one (N. W.) the ulcer could not be found after prolonged search. These three cases all died. Of the remaining 58 ulcers closed by operation 26 died. The operative mortality is therefore 44 per cent.

Age.—The youngest patients were 17, the oldest was 77.

Between 17 and 20—12 gastric cases, 0 duodenal.
,, 21 and 30— 9 ,, ,, 4 ,,
,, 31 and 40—17 ,, ,, 1 ,,
,, 41 and 50— 6 ,, ,, 0 ,,
Over 50—5 gastric cases, 1 duodenal.

It will be seen that all ages from 17 to 40 are about equally liable, and that there is no marked difference in the age distribution of perforated gastric or duodenal ulcers. There is not the great preponderance of girls about 20 that the books lead one to expect.

Sex.—Of gastric or pyloric cases, 23 were male and 26 female. Of duodenal cases, 4 were male and 2 female.

Previous History of Stomach Symptoms.—In 3 cases there had been no warning symptoms at all. In 11 cases there had been mild dyspepsia, not sufficient to cause invalidism, for some weeks or months. In 18 cases there had been very definite evidence of gastric ulcer, such as continual pain,

vomiting, or hæmatemesis. In 2 cases there was noted a relation to over-distension of the stomach. One girl (H. W.) had had a large supper of meat and punch, and a man (H. P.) perforated after taking a whole syphon of soda water with whisky to correspond.

Situation of Perforation.—In 33 cases the perforation affected the anterior wall of the stomach. In 11 cases the perforation affected the posterior wall of the stomach. In 8 cases the perforation affected the pylorus itself, in front. In 6 cases the perforation affected the duodenum.

For some reason or other the pylorus proved to be much the most favourable site for recovery. Only one of eight cases died. Five of the six duodenal patients recovered.

The Operation Mortality.—Three factors influencing the mortality may be mentioned :—

1. *The nature of the operation.*

Three patients were treated by closure of the ulcer and immediate gastro-jejunostomy. Of these two recovered and one died (D. S., E. K., H. P.).

Four patients had the ulcer excised ; in two of these the incision was sewn up in the manner of a pyloroplasty. These both recovered, the other patients died (F. J., T. P., H. G., G. C.).

In one case the ulcer could not be found, and the patient died (N. W.).

The remaining cases were treated by simple suture, with or without an omental graft. Of 13 cases in which the intestines were swilled over with saline fluid, 7 recovered and 6 died ; of cases in which the exudate was mopped out but no swilling was used, 21 recovered and 11 died.

2. *The Time Factor.*—In 47 patients there was a very sudden onset, the pain coming on in an instant with awful severity ; in 9 cases the symptoms crept on by degrees.

Dealing with the acute cases first :—

Operation within 12 hours—19 recovered, 5 died.
Operation from 12 to 24 hours—4 recovered, 6 died.
Operation over 24 hours—3 recovered, 10 died.

These figures emphasise the importance of early operation.

Of the chronic cases, none were operated on in less than 24 hours. 6 recovered and 3 died.

3. *The Site of the Perforation.*—Pyloric and duodenal perforations were by far the most favourable, presumably because they allow of less escape of gastric contents.

The common cause of death was of course peritonitis and shock (11 cases). In two cases the perforation burst open again, and one each of the following fatal calamities occurred: double pneumonia, fluid in chest, abscess in chest, pulmonary embolism, perisplenic abscess, leaking gastro-jejunostomy wound, intestinal obstruction by adhesions, a second perforation at another site, pylephlebitis, subphrenic abscess, vagus inhibition by chloroform during a second operation for chest trouble.

The After-History of the Recovered Patients.—Of the recoveries, 23 have been followed and 10 lost sight of.

Of these 23, two (D. S., E. K.) had a primary gastrojejunostomy performed, and are both absolutely cured, and can eat anything without trouble.

Two had the ulcer excised and the incision sewn up like a pyloroplasty. One (T. P.) is completely cured, and the other (F. J.) can take ordinary food, but thirteen months after the operation began to suffer from occasional pain after meals. She does not vomit.

Of the remaining 19, only four express themselves as quite cured. None of these had had much dyspepsia before the perforation; two of them had had no symptoms at all. Eleven patients still suffer from indigestion or vomiting; they are not usually incapacitated from work, but are liable to bad attacks periodically. Two patients came in again for a gastro-jejunostomy. One of these is completely cured (F. H.), the other is considerably improved (G. M.).

One patient (D. H.) has an enormous incisional hernia, which has been operated on unsuccessfully, and he is in continual misery.

Remarks and Conclusions.—There are certain differences between the gastric ulcer that perforates and the gastric ulcer that causes chronic indigestion. The average age is about ten

years younger. There may be very trifling symptoms or none at all. In 85 per cent. of the cases that perforate the ulcer is not on the pylorus. In 52 per cent. of the cases that come to operation for dyspepsia the ulcer is on the pylorus.

There is not much difference in the incidence of this catastrophe on the two sexes, and it is equally common at any age from 17 to 40.

Early operation, within twelve hours of perforation, saves about 80 per cent. of the patients; later operation is usually unavailing, but the results do not get very bad until the second day. Cases that begin gradually are more favourable for late operation. Even if the patient does not succumb to shock and peritonitis there are many other possible complications.

With regard to the nature of the operation to be performed, our figures tell decidedly against the practice of employing lavage for the intestines.

Nearly all the sufferers continue to complain of indigestion afterwards, though it does not seem to be very severe. This is an argument for doing gastro-jejunostomy at the time if the patient will stand it. The results then become very satisfactory.

CANCER OF THE STOMACH.

Thirty-three cases of cancer of the stomach have been treated, including 25 men and 8 women. The ages vary from 39 to 71, the great majority being between 48 and 60.

Only in four patients was there a history of gastric troubles eighteen months in duration; usually the symptoms had come on within less than a year. Pain was always present, vomiting was usual, and there is nearly always a note of anorexia and wasting. Only three patients had vomited blood, and in one of these it was eighteen months before admission. Obvious or occult blood in the stools was much commoner. A lump was felt in the abdomen in 19 cases out of the 33, and the stomach was often much dilated. There is no note on the chemical examination of the vomit in 11 cases, in 1 the hydrochloric acid was normal, in 3 it was deficient, and in 7 it was absent.

Great difficulty was experienced on several occasions in making a definite diagnosis of malignancy even after opening the abdomen. The after-history of two persons (E. T., M. B.) sent out with a gastro-jejunostomy for supposed cancer suggests strongly that they were cases of ulcer; one of them is now perfectly well in every way, although the operation was early in 1907. Another patient (W. B.) was submitted to pylorectomy on the view that the mass was cancerous; it proved on microscopical examination to be simple, and unfortunately the man died of shock. It is possible, but not certain, that the ulcer may have been malignant in a woman of 25 who died of diarrhœa one year after gastro-jejunostomy for what was taken to be a large inflammatory mass (F. L.). In another case (M. P.), now lost sight of, it was left in doubt what the nature of the mass in the pylorus might be.

Situation of the Growth.—In 16 cases the pylorus was affected, in 13 the growth occupied the body of the stomach or the curvatures, in 3 it invaded the cardiac end.

Operative Treatment and its Results.—In 20 cases the abdomen was explored and closed again. Of these 7 patients left the Infirmary and are lost sight of. Five others died within a month, but no one seems to have been hastened out of the world by the operation. Only one individual lived for more than four months. This one (H. L.) presented a remarkable history. He was a man of 56, who had been suffering from dyspepsia and hunger-pain with vomiting for many years. On exploration a mass as large as an orange was observed at the cardiac orifice, and nothing was done. He was still alive two and a half years after, and had another operation, when a huge irremovable mass was found. Shortly after this he died. It is possible that the original condition was a simple ulcer.

In 8 cases a gastro-jejunostomy was performed. Two patients died of the operation within a few days. Another obtained no relief, and was then lost sight of. Of the other five, four seem to have obtained some measure of transient comfort, the fifth died in the train on the way home six weeks later. One patient lived five months; he had flatulence and pain, but no

vomiting. Another improved so much that when he left I wrote, "Astonishingly well, gained 34lb. Not an unpleasant symptom since, so that one doubts the diagnosis." He died nine months after in "excruciating pain." Another was "fairly well for two months," but then got bad again, and died in five months. The remaining patient did well whilst in the Infirmary, and gained nearly four stone in as many months. She has since been lost sight of.

In four patients an extensive resection was performed. Two died of shock within a few days. Another (E. H.) recovered excellently, and was very well for some months, then the growth recurred and she died nine months after. The fourth patient (S. L.) was operated on in 1908, a gastro-jejunostomy being performed first and a partial gastrectomy one week later. The malignant nature of the growth was confirmed by the microscope. He was greatly relieved for two years, and in July, 1910, was hale and hearty, but since then there has been continual pain with some vomiting and hæmatemesis. An exploratory laparotomy has lately been performed, and a recurrence was found.

GASTRIC OR PYLORIC ULCER.

Forty-one cases fall under this heading, excluding those patients in whom nothing was found at operation. The hour-glass stomachs and operations for severe hæmatemesis are also put under other headings. All the patients in this group, therefore, were submitted to operation for pain or vomiting, with or without evidence of dilatation of the stomach. If there had been vomiting of blood, it was only as an incident in the course of other symptoms, and not the prime cause for interference. Hydrochloric acid was never absent from the gastric contents; it was sometimes deficient and sometimes excessive.

In many of the cases there was a long history of continual misery. Many of them had undergone every variety of treatment, including dieting, rest in bed, and regular lavage, with little or no relief. One or two of them had already been operated

on, one had had her kidney fixed twice and her appendix removed, another had had an appendicectomy.

Age and Sex.—There were 13 men and 28 women.

Under 20	..	..	..	..	2 cases.
Between 21 and 30	..	..	..	8	,,
,, 31 and 40	..	..	..	10	,,
,, 41 and 50	..	..	..	15	,,
Over 50	..	..	..	..	5 ,,

Situation of the Ulcer.—Twenty of the ulcers were situated at the pylorus, eighteen affected the body of the stomach, and in two there were multiple ulcers.

Operative Treatment and End-Results. One patient (E. L.) was explored when in a dying condition, and nothing was done.

Excision of Ulcer.—This was practised three times. In one case (W. B.) an extensive pylorectomy was done in the belief that the mass was cancerous, and the patient died. Another (T. R.) has not been improved at all by the operation, and has been explored again in another hospital without benefit. The third (E. W.) is greatly improved, but not quite free from symptoms; she can usually take ordinary food.

Gastro-duodenostomy.—In four cases an opening has been made between the stomach and the duodenum. One is absolutely cured (P. R.). In another case (T. B.) there was some relief for six months, but since then he has been as bad as ever, and lives on bread and Benger's food. The other two have been lost sight of; one of them promised well, the other did not.

Gastro-jejunostomy.—This operation was performed in 33 cases. The posterior anastomosis was always undertaken. In at least three patients a long isoperistaltic loop was made, and in three others an isoperistaltic short-circuiting with no loop. All except one in the former class, who has relapsed, have been perfectly cured. In the great majority of the cases the antiperistaltic no-loop operation was done.

Taking the results all together, there have been no deaths

from the operation, but two patients have died since. One of these (H. H.) was perfectly well for six years, and then after a fortnight's pain and vomiting brought up a quart of blood. A fortnight later he bled into the bowel and died. There was no autopsy. The other patient (F. L.) did fairly well for a year, and then died with diarrhœa lasting two months. There was no autopsy. It is possible that this was a cancer.

Two patients (K. C., M. B.) only show slight improvement, although they were relieved for a month or two at first.

Five patients show great improvement, lasting from one to four years, but they have a little occasional pain or vomiting. In two of them the symptoms are really very trifling, and they can all do their work. In one case at least the trouble is due to the fact that the patient is quite edentulous. He was perfectly well for four years. [1]

Twenty patients out of twenty-nine followed through are absolutely and perfectly cured up to the present, and can take any ordinary food.

Four patients have been lost sight of.

SYMPTOMS OF GASTRIC ULCER: NO ULCER FOUND.

Included under this heading are cases of pain or vomiting diagnosed as gastric ulcer in which nothing, or only a little doubtful thickening of the pylorus, was found on the table. They are 12 in number, of which 2 have been lost sight of. In two cases gastro-duodenostomy was performed. One (A. S.) is quite cured. The other (C. G.) was relieved for nine months, but now gets much severe pain in attacks about twice a year, and her diet is strictly limited.

Another patient (F. A.), with some gastroptosis, had Finney's operation performed. After twenty-four hours she was given peptonised milk, and at once commenced to vomit blood until she died sixteen hours later. Nothing was found to account for it at the *post-mortem*.

The remaining 9 patients were treated by a posterior gastro-jejunostomy. Of 7 followed through, 1 is quite free from

[1] Another has just been explored for an acute attack of pain, but nothing was found to account for it.

symptoms (for four years), 3 are considerably improved but not free from symptoms, and 3 are no better One (E. G.) of these is suffering from locomotor ataxia, and is now insane. Another (J. S.) was relieved for a while, but has been bad since; she had her appendix removed, and is now rather better, but still an invalid. One of those only partially relieved has tertiary syphilis, which may account for some of his troubles.

It will be seen that the results in this class are not so favourable as when a definite ulcer was discovered. Two are cured and four improved out of ten followed through. In the previous class, of 31 patients treated by a short-circuiting operation and followed through 21 are absolutely cured and 5 greatly improved.

DUODENAL ULCER.

Of 6 cases, 5 were men and 1 a woman. All except one were over 30.

There was evidence on which a diagnosis might have been made in several of the cases. In three out of the six the pain was late after food, bore no relation to meals, or was relieved by eating. This sign must not be trusted too implicity, however, as five patients with pyloric ulcer presented the same symptom, and so did one girl with no ulcer at all. Three of the cases of duodenal ulcer had vomited blood, and one had had melæna.

One of the patients was treated by gastro-duodenostomy, but is lost sight of.

The other five had a gastro-jejunostomy performed. One (A. R.) died suddenly and unexpectedly on the sixth day. At the autopsy there was perihepatitis, pericarditis and œdema of the lungs, but the notes are inadequate. Three patients are perfectly cured, and one (J. V.) is almost well. His only trouble is that he gets pain and vomiting after stooping and digging (he is a country policeman). He also finds that he must avoid cooked vegetables.

HOUR-GLASS STOMACH.

Seven patients have been treated for this condition. Six were female and one male. Their ages ranged from 22 to 42,

most were about 35. All had been suffering from gastric symptoms for many years—one said 10 years, another 21, another 15, and a fourth had been washing out his stomach for 6 years. This long history is of great importance in making a diagnosis. Four had had severe attacks of hæmatemesis at various times. In one case the condition was recognised before operation by the help of a very conclusive skiagram after a bismuth meal.

The general results are as follows :—

3 cases perfectly cured.
1 case much improved.
1 case not improved.
2 cases died.

Of the patients who are cured, one had a double gastro-jejunostomy performed, another had a gastroplasty of the constriction and a gastro-jejunostomy of the distal pouch, and the third had a gastro-jejunostomy of the proximal pouch.

The patient much improved (A. H.) had a duodenal ulcer as well as hour-glass stomach. Gastroplasty of the constriction and gastro-jejunostomy of the proximal loop were performed.

The patient who is no better (G. B.) had a pyloric ulcer contracting, and the hour-glass constriction was only moderate. A single gastro-jejunostomy was performed.

Both the patients who died had a gastro-jejunostomy. One of them, who suffered from Graves's disease, died of perforated gastric ulcer some days after. The other developed pneumonia.

HÆMATEMESIS.

Included under this heading are seven patients in whom the indication for the operation was severe bleeding. Where bleeding was only one of other indications the cases are classed elsewhere. In one (G. K.) of these seven individuals severe hemorrhage came on three weeks after operation for a perforated gastric ulcer. In the others there had been repeated hemorrhages.

In two cases an ulcer was present in the stomach, but nothing abnormal could be found in the stomach or duodenum of five

of these patients. It is plain that severe repeated hæmatemesis is not an evidence of gastric ulcer. Three of the patients had been treated for pain and a little vomiting, in the others there was scarcely any warning before the bleeding came on.

With the exception of one recent case, one which has a persistent sinus after gastro-duodenostomy, all the patients are cured, although one has some nausea and a feeling of tingling in the scar. These five had gastro-jejunostomy performed. Two of them have been followed for four years. One has been lost sight of.

PERIGASTRIC ADHESIONS.

Two patients had dilated stomachs with adhesions about the pylorus. Both were treated by gastrojejunostomy. One died a month later of bronchiectasis. The other was much improved at first, but is now lost sight of. It is possible that there may have been ulceration in these cases, although no scar was found. One had had hæmatemesis.

CONGENITAL STENOSIS OF PYLORUS.

One infant, aged six weeks, was treated for this condition. He suffered from constipation and forcible vomiting. There was visible gastric peristalsis, and the pylorus was felt once. He lost a pound in a fortnight in spite of washing out and treatment with tincture of opium. At the operation a very thickened pylorus was found and submitted to pyloroplasty. For three weeks all went well, and the weight increased by six ounces; then came a period of standstill, and the child died for no apparent reason.

TABLE OF RESULTS.

Disease.	Operation.	Total Cases.	Lost Sight of.	Cases followed.	Quite Cured.	Much Improved.	Severe Symptoms still.	Died since leaving.	Died before leaving.
Perforated Gastric Ulcer ..	All operations	53	9	44	7	8	4	0	25
,, ..	Suturing, drainage	47	9	38	4	8	4	0	22
,, ..	Excision of ulcer	3	0	3	1	0	0	0	2
,, ..	Immediate gastro-jejunostomy	3	0	3	2	0	0	0	1
Perforated Duodenal Ulcer ..	All operations	6	1	5	0	4	0	0	1
,, ..	Suture, drainage	5	1	4	0	3	0	0	1
,, ..	Excision, pyloroplasty	1	0	1	0	1	0	0	0
Cancer of Stomach	All operations	33	9	24	0	1	0	17	6
,, ...	Exploration only	20	7	13	0	0	0	11	2
,, ...	Gastro-jejunostomy	8	1	7	0	0	0	5	2
,, ...	Partial gastrectomy	4	0	4	0	1	0	1	2
,, ...	Gastrostomy	1	1	0	0	0	0	0	0
Gastric Ulcer	All operations	41	6	35	21	6	4	2	2
,, ...	Excision	3	0	3	0	1	1	0	1
,, ...	Gastro-duodenostomy	4	2	2	1	0	1	0	0
,, ...	Gastro-jejunostomy	33	4	29	20	5	2	2	0
,, ...	Exploration	1	0	1	0	0	0	0	1

Symptoms of Ulcer; none found	All operations	12	2	10	2	4	3	0	1
,,	Gastro-duodenostomy	3	0	3	1	1	0	0	1
,,	Gastro-jejunostomy	9	2	7	1	3	3	0	0
Duodenal Ulcer	All operations	6	1	5	3	1	0	0	1
,,	Gastro-duodenostomy	1	1	0	0	0	0	0	0
,,	Gastro-jejunostomy	5	0	5	3	1	0	0	1
Hourglass Stomach	All operations	7	0	7	3	1	1	0	2
,,	Single gastro-jejunostomy	4	0	4	1	0	1	0	2
,,	Double gastro-jejunostomy	1	0	1	1	0	0	0	0
,,	Gastroplasty and gastro-jejunostomy	2	0	2	1	1	0	0	0
Hæmatemesis	All operations	7	1	6	4	2	0	0	0
,,	Gastro-duodenostomy	1	0	1	0	1	0	0	0
,,	Gastro-jejunostomy	6	1	5	4	1	0	0	0
Perigastric Adhesions, Dilated Stomach	Gastro-jejunostomy	2	1	1	0	0	0	1	0
Congenital Stenosis of Pylorus	Pyloroplasty	1	0	1	0	0	0	0	1

SUMMARY OF CASES.

PERFORATED GASTRIC OR DUODENAL ULCER.

Year.	Initials.	Age.	Sex.	Symptoms.	Time of Operation.	Findings and Treatment.	End-Result.
1902	A. C.	30	F.	Hæmatemesis 3 months ago. Acute onset of perforation	4 hours ..	Anterior wall. Sewn up, drained	Recovered. Lost sight of.
,,	N. W.	16	F.	Indigestion for months. Acute onset	23 hours	Perforation could not be found	Died 12th day.
1903	W. C.	40	M.	Sudden onset. Very ill	15 hours..	Ant. wall. Sewn up, drained	Died under 24 hours.
,,	B. S.	20	F.	Three months dyspepsia. Acute onset	2 days ..	,, ,,	Recovered. Lost sight of.
,,	M. S.	20	F.	Recently in medical ward for gastric ulcer. Acute onset	24 hours..	Ant. wall sewn up. Swilled, drained	Recovered. Lost sight of.
,,	L. C.	18	F.	Dyspepsia for years; vomited blood. Acute onset	2 days ..	Ant. wall. Sewn up, drained	Died 3rd day. Perisplenic abscess.
,,	A. P.	37	M.	Dyspepsia 1 year. Acute onset	8 hours..	Ant. wall. Sewn up, swilled, drained	Seen 4.1911. Dyspepsia ever since, loses work by it.
,,	E. N.	19	F.	Dyspepsia always. Acute onset	6 hours..	Ant. wall. Sewn up, drained	Recovered, Lost sight of.
,,	B. H.	17	F.	Occasional dyspepsia. Gradual onset at Wells	3 days ..	Post. wall. Sewn up, swilled, drained	Died 3rd day. Perforation reopened.
1904	J. W.	25	M.	Ill for 8 weeks with subphrenic abscess	3 days ..	Abscess opened	Died 6 weeks later. Perforated duodenal ulcer.
,,	E. H.	18	F.	Dyspepsia, worse lately. Sudden onset	3 days ..	Ant. wall. Sewn up, drained	Died 12th day. Abscess in chest.
,,	E. S.	18	F.	Dyspepsia 14 days. Acute onset	27 hours..	Ant. wall. Sewn up, swilled, drained	Died under 24 hours.

,,	F. A.	27	M.	Slight dyspepsia 1 year. Acute onset	8 hours..	First part of duodenum. Perforated, sewn up, drained	Writes, 4.1911 : " For 3 years pain and vomiting ; now better."
1905	E. H.	41	F.	Dyspepsia 1 year, worse lately. Acute onset	11 hours..	Ant. wall. Sewn up, drained	Died.
,,	H. S.	21	M.	Dyspepsia 1 year, worse lately. Acute onset	3 hours..	Duodenal. Sewn up, drained	Recovered. Lost sight of.
,,	R. K.	31	F.	Severe dyspepsia for years. Acute case	2 days ..	Post wall. Sewn up, swilled, drained	Recovered. Lost sight of.
,,	G. C.	45	M.	Dyspepsia for years. Acute onset at Avonmouth	3 hours..	Post. wall. Sewn up, swilled, drained	Recovered. Lost sight of.
,,	E. A.	23	F.	Pain and vomiting for months. Acute onset	3 days ..	Appendicectomy. Huge perforation ant. wall. Sewn up, drained	Died under 24 hours. Another perforation of post. wall.
,,	M. P.	40	F.	Pain and vomiting for years, worse lately. Sudden onset whilst lifting a patient	8 hours..	Ant. wall. Sewn up, swilled, drained	Writes, 4.1911 : " Relief for 1½ years." Still attacks of pain and vomiting. Well in the intervals.
,,	F. P.	23	M.	Dyspepsia 2 years. Sudden onset	?	Ant. wall. Sewn up, swilled, drained	Died 15th day of pulmonary embolism.
,,	E. K.	48	F.	Old case of nephrorrhaphy, rerently vomiting. Sudden onset	1 day ..	Post. wall. Sewn up, swilled, drained.	Died 4th day.
1906	T. C.	40	M.	Dyspepsia 2 years. Sudden onset	3 hours..	Post. wall. Sewn up, swilled, drained	Recovered. Lost sight of.
,,	G. P.	77	M.	Acute pain and retention ; thought to be prostatic case		No operation	Died under 24 hours.
,,	R. E.	35	M.	Occasional dyspepsia. Sudden onset	?	Post. wall on pylorus. Sewn up, drained	Died 7th day. Chloroform death. Abscess formed in right chest.
,,	B. T.	22	F.	Pain and vomiting 2 months. Sudden onset	12 hours..	Post. wall. Sewn up, swilled, drained	Twice vomited blood. Recovered. Lost sight of.
,,	E. T.	17	M.	From the medical floor. Sudden onset	?	Ant. wall. Sewn up, swilled, drained	Died next day.
,,	V. F.	25	M.	Some pain 1 hour after food ; vomiting. Acute onset	3 hours..	Ant. wall. Omental graft. swilled, drained	Died 5 weeks later. Fluid in chest.

PERFORATED GASTRIC OR DUODENAL ULCER (*continued*).

Year.	Initials.	Age.	Sex.	Symptoms.	Time of Operation.	Findings and Treatment.	End-Result.
1907	H. T.	37	M.	Considerable pain and fulness after food. Acute onset	24 hours..	Perforated on pylorus. Sewn up, drained	Writes, 4.1911 : "Gets cramp pains across the stomach at intervals ; well between. Takes ordinary food. Feeling of fulness sometimes."
,,	J. P.	36	M.	Colicky pain for fortnight, worse last 2 days	Gradual	Duodenal. Sewn up, drained	Writes, 4.1911 : "Operation gave real relief, but still get vomiting and pain at times ; not very often." Takes ordinary food.
,,	L. M.	?	F.	Admitted very ill and collapsed	No operation	....	Died under 24 hours. Two ulcers, one perforated.
,,	F. J.	21	F.	Little dyspepsia lately, vomited blood. Sudden onset	?8 hours..	Duodenal. Excised, sewn up, as pyloroplasty ; omental graft. Drained	Writes, 4.1911 : "Real relief for 13 months. Since then some pain, no vomiting. Takes ordinary food."
,,	D. S.	22	F.	Pain and vomiting for 4 years Acute onset	12 hours. .	Ant. perforation, old adhesions. Sewn up. Gastro-jejunostomy. Drained	Got pneumonia and white leg. Writes, 4.1911 : "Operation a perfect success in every way." No symptoms, eats anything.
,,	M. W.	19	F.	Dyspepsia 3 weeks. Sudden onset	?	Ant. wall. Sewn up, drained	Mistress writes, 4.1911 : "Operation entirelysuccessful." Lately lost sight of.
,,	R. T.	20	F.	Dyspepsia 3 months. Acute onset	4 days ..	Ant. wall. Sewn up, drained	Died next day.
1908	L. S.	35	F.	Dyspepsia for years. Acute onset. Dying	2 days ..	Ant. wall . Sewn up. drained	Died under 24 hours.

„	F. P.	27	F.	Dyspepsia 3 years. Sudden onset	6 hours..	Duodenal, near pylorus. Sewn up, omental graft, drained	Writes, 4.1911 : "Great relief." No pain or vomiting, occasional slight indigestion. Takes ordinary food.
„	A. H.	37	M.	No previous symptoms. Acute onset. Very ill	3 days ..	Perforation on pylorus. Sewn up, drained	Writes, 4.1911 : "Operation successful." No symptoms. Takes ordinary food.
„	H. G.	36	F.	Invalided out of army for gastric symptoms 2 years ago. Onset acute	24 hours..	Ulcer excised. Drained ..	Died under 24 hours.
„	E. L.	20	F.	No previous symptoms. Not very ill	3 days ..	Ant. wall. Perforation sealed by omentum and lymph. Not much peritonitis. Sewn up, drained	Writes, 4.1911 : "Enjoys splendid health." Takes ordinary food, no trouble at all.
„	T. P.	62	M.	Dyspepsia 10 years, once vomited blood. Pain 1½ hours after food. Has had renal calculi ; operation 4 years ago. Sudden onset	1 day ..	Perforation on pylorus. Excised, sewn up as pyloroplasty. Drained. Calculi in kidney	Writes, 4.1911 : "Great relief from all stomach trouble." No symptoms or pain since. Takes ordinary food.
„	H. P.	38	M.	No previous dyspepsia. Sudden perforation after drinking a whole syphon of soda-water, with whisky	Under 24 hours	Ant. wall. Sewn up, drained	Died under 24 hours.
1909	W. K.	59	M.	Pain 1½ hours after food for years. Sudden onset	? 3 hours	Post. wall, near pylorus. Sewn up, drained	Died. Double pneumonia ; wound burst open ; fæcal fistula.
„ ½	E. K.	65	M.	Periodical severe gastric pain, large vomits. Pyloric tumour. Thin. In great pain. Not suspected of having perforated	? very recent	Pyloric ulcer perforated. No peritonitis. Sewn up, gastro-jejunostomy	Gained 17 lb. Writes, 4.1911 : "No symptoms since operation. Eats anything."
„	A. M.	22	F.	Recent dyspepsia. Sudden onset, but able to get about a little since	2 days ..	Perforation on pylorus. Sewn up, drained	Writes, 4.1911 : "Operation gave great relief, am wonderfully well." A little indigestion still ; is careful with diet.

PERFORATED GASTRIC OR DUODENAL ULCER (*continued*).

Year.	Initials.	Age.	Sex.	Symptoms.	Time of Operation.	Findings and Treatment.	End-Result.
1909	H. D.	32	M.	Dyspepsia for months. Acute onset	1 day ..	Perforation near pylorus. Little peritonitis. Sewn up, drained	Writes, 4.1911: "Pain at times. Can eat most things."
,,	E. P.	41	F.	Old in-patient with gastritis; has had gallstones. Now diagnosed as appendicitis	3 days ..	Large perforation, ant. wall. sewn up, drained	Perforation burst open 3 days later. Second operation. Died next day.
,,	H. W.	21	F.	Dyspepsia 6 months. Acute onset after large supper of meat and punch	? 3 hours	Post. wall. No general peritonitis. Sewn up, drained	Writes, 4.1911: "Operation most successful." One attack of pain and vomiting since, occasional dyspepsia. Takes ordinary food.
,,	D. H.	35	M.	Little previous dyspepsia. Acute onset after dinner	10 hours..	Ant. wall. Sewn up, drained	Incisional hernia; unsuccessful attempt at closure since. Seen, 4.1911. Huge incisional hernia, much pain and vomiting. Cannot work. Very careful of diet.
,,	W. D.	47	M.	Dyspepsia for months. Acute onset	24 hours..	Ant. wall. Sewn up, drained	Died soon after.
,, (see under Gastric Ulcer)	F. H.	37	M.	Has had previous pain, vomiting and hæmatemesis. Acute onset	5 hours..	Ant. wall. Old adhesions. Sewn up, omental graft, drained	Pain and vomiting continued, could not work. Eventually cured by gastro-jejunostomy.
,, (see under Gastric Ulcer)	G. M.	32	M.	Pain 10 days ago. Acute onset	3 hours..	Perforation on pylorus. Sewn up, omental graft, drained	Pain and vomiting continued. Greatly relieved by later gastro-jejunostomy.
1910	F. P.	58	M.	Mild dyspepsia. Sudden onset	? 8 hours	Duodenal. Sewn up, drained	Recovered. Lost sight of.

,,	E. B.	38	F.	Pain and vomiting and careful dieting for years. Acute onset	Over 24 hours	Ant. wall. Sewn up, drained	Died 1 month later, after continual vomiting. Intestinal obstruction by adhesions of ileum to wound. Stomach perforated, and contents in lesser sac. No peritonitis.
1910 (Nov.)	A. P.	23	F.	In Medical ward 7 days with vomiting. Temp. 102°. Leucocytosis. Explored, pus found	?	Leaking gastric ulcer; pus between stomach and liver. Sewn up, drained	Writes, 4.1911: "Greatly benefited, much better." Two attacks of pain and vomiting since. Cannot eat meat.
1910	H. P.	50	M.	Dyspepsia many years. Sudden onset, awful pain	16 hours..	Rather hour-glass stomach, perforation ant. wall. Sewn up, gastro-jejunostomy of proximal pouch. Drained	Died 12 days later from leakage of the gastro-jejunostomy wound at the cardiac end.
1910 (May)	A. P.	18	F.	Pain and vomiting 3 months. Acute onset	24 hours..	Ant. wall. Sewn up, drained	Writes, 4.1911: "Great benefit." Quite free from symptoms.
1910 (May)	A. C.	32	M.	Pain and vomiting ½ hour after food. Is an out-patient. Acute onset	2½ hours..	Ant. wall. Sewn up, drained	Seen 4.1911. Went on well 4 months till he started work. Since then severe hunger-pain. Diet severely restricted. No vomiting. At work.
1910	H. M.	30	M.	(No notes.)	11 hours..	(No notes.)	Died next day.
1910	E. G.	64	F.	Dyspepsia 2 weeks. Sudden onset. Sent from Blagdon as appendicitis	?	Perforation of pylorus. Sewn up, drained	Died 1 week later. No *post-mortem*.
1910	G. C.	33	M.	Sudden onset	4½ hours..	Ant. wall cardiac end. Excised, drained	3 weeks later, rigors with leucocytosis. Died. *Post-mortem*, pylephlebitis.
1910 (Jan.) (see under Hæmatemesis)	G. K.	59	M.	Dyspepsia for years. Gradual onset. Diagnosed as perforation into lesser sac	3 days ..	Ant. pyloric perforation. No leakage	22 days later a severe hæmatemesis. Quite cured by gastro-jejunostomy.

CANCER OF STOMACH.

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1902	E. H.	61	F.	Pain, vomiting 7 months. Melæna. Very anæmic. Lost 4 st. Lump felt	Cancer of pylorus (confirmed by microscope). Partial gastrectomy with end-to-end suturing	Gained 24 lb. in 5 weeks; did well for several months. Died of recurrence 9 months later.
,,	E. W.	48	F.	Pain 1 year, daily vomiting, wasting. Lavage, no relief	Large mass in pylorus, secondaries in bowel, big stomach. Gastro-jejunostomy	Complete relief for 4 months. Gained 3 st. 12 lb. Since lost sight of.
,,	E. O.	68	F.	Pain, wasting, costive. Lump felt	Large cancer of cardiac end; secondaries. *Nil* done	Died 2 months after leaving.
,,	C. B.	51	M.	Lump and dyspepsia 9 months. Severe pain, vomiting, wasting 3 months	Diffuse leather-bottle stomach. Extensive removal, end-to-end union	Died 5th day of shock.
,,	W. C.	49	M.	Vomiting, pain, wasting. One attack hæmatemesis	Large inoperable growth. *Nil* done	Died 1 month later, vomiting to the end.
1903	E. T.	49	F.	Small vomits immediately after food, 10 months. Pain, wasting, lump	Gastrostomy	Recovered. Lost sight of.
,,	J. H.	54	M.	From Medical ward. Vomiting 1 month, costive, wasting, lump in pylorus. Sarcinæ, lactic acid, HCl 0.12 %	Lavage; no relief. Explored. Large growth in pylorus. Gastro-jejunostomy	Died 4 days later.
1905	E. C.	?	F.	Pain after food 3 years. Great flatulence. Lump felt	Extensive cancer. *Nil* done ..	Lost sight of.
,,	J. D.	54	M.	Pain, anorexia, wasting; 2 months' history. Lump felt. Takes fluids only. Lactic acid, no HCl.	Extensive cancer. *Nil* done ..	Died 5 weeks after leaving, exceedingly emaciated. No pain or vomiting.
1906	A. W.	39	M.	Copious yeasty vomiting. Lost 4½ st. Lump felt	Growth in pylorus; glands. Dilated stomach. Gastro-jejunostomy	A month later I wrote: "Astonishingly well, gained 34 lb. Not an unpleasant symptom since, so that one doubts the diagnosis." Died 9 months later "after excruciating pain."

,,	W. E.	60	M.	Vomiting, wasting, anæmic. Large hæmatemesis 18 months ago. Lump	Cancer of lesser curvature. *Nil* done	Died "soon after leaving."
,,	J. P.	44	M.	4 years' pain several hours after food. Now very frequent vomiting	Cancer of pylorus. *Nil* done ..	Died 3 months' after leaving.
,,	H. L.	56	M.	Many years' hunger-pain. Now vomiting and anorexia. No lump	Mass size of orange in cardiac orifice. Gall-stones in bile-duct *Nil* done	Remained in same condition for 2½ years, when he was again explored, and a huge growth found. Died soon after.
1907	R. F.	44	M.	Periodical pain and vomiting 2 years. Now constant vomiting. Lactic acid, no HCl	Lump found in greater curvature. *Nil* done	Lost sight of.
,,	G. P.	53	M.	Pain 8 months, losing weight. Only vomited once. Lump felt	Mass near pylorus. Large glands *Nil* done	Died 23 days after leaving, with much pain and hæmatemesis.
,,	N. L.	49	M.	Pain and vomiting 1 year. Wasted. Lump felt	Mass in pylorus. Gastro-jejunostomy attempted, man too ill	Died 1 month after leaving.
,,	M. A.	67	F.	Pain, anorexia, vomiting, wasting 8 months. Lump. Lactic acid, no HCl	Extensive cancer of body of stomach. *Nil* done	Lost sight of.
,,	W. L.	71	M.	Pain and wasting 4 months. Little vomiting. Enormous stomach. HCl present	Extensive growth. *Nil* done ..	Lost sight of.
1908	S. L.	57	M.	Pain after food, vomiting, constipation, loss of weight, anorexia for 12 months. Very thin. Lump size of golf ball. Lactic acid, HCl 0.14 %	Growth in pylorus (proved cancer by microscope). Gastro-jejunostomy, a week later partial gastrectomy (Mayo's method)	In July, 1910, was hale and hearty, free from symptoms, and had put on flesh. Since going downhill. Now gets constant pain and vomiting, and has brought up blood. Perhaps a recurrence.
,,	L. M.	40	M.	Pain, vomiting, constipation 3 months. Lost 2 stone. Lump. HCl nearly absent, yeasts and lactic acid. Occult blood in stools	Extensive cancer, with glands. *Nil* done	Vomited till he died 8 weeks later.
,,	J. P.	63	M.	Dyspepsia and wasting. Lump felt	Diffuse growth. *Nil* done	Lost sight of.
,,	C. S.	65	M.	Weakness and pain, 4 months. Wasting. No HCl. Lump felt	Cancer of pylorus. Partial gastrectomy (Mayo), gastro-jejunostomy	Died on 3rd day.

CANCER OF STOMACH (*continued*).

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1908	J. W.	46	M.	Pain, anorexia and enormous vomits, 2 months. Large stomach. HCl 0.2 %	Mass in pylorus. Gastro-jejunostomy	Died 6 weeks after in the train going home.
,,	F. E.	51	M.	Pain 10 months, vomited once ..	Large pyloric growth, glands. *Nil* done	Lost sight of.
1909	W. S.	57	M.	Dyspepsia many years. Recently worse; vomiting, anorexia, wasting, lump	Growth near pylorus. Gastro-jejunostomy	Died 5 or 6 months later. Flatulence, pain, but no vomiting.
,,	M. P.	39	F.	Pain, vomiting for many years. In-patient 10 years ago for it. Three attacks hæmatemesis. Dilated stomach. Absorption slow	Mass in pylorus, nature uncertain. Large stomach. Gastro-jejunostomy	Not improved. Since lost sight of.
,,	A. R.	46	M.	Pain and enormous vomits, 6 months. Large stomach. HCl deficient. No occult blood	Cancer of body of stomach. *Nil* done	Lost sight of.
1910	W. M.	58	M.	Pain, vomiting and very dilated stomach, 6 weeks. Wasting. Fed on slops	Cancer of pylorus, enormous stomach. Gastro-jejunostomy	Died 4 days later. Stomach still very large.
,,	J. B.	65	M.	Pain and occasional vomiting, 1½ years. Wasting. Free HCl present	Growth of pylorus invading liver. Gastro-jejunostomy	Took food well for 2 months. Much pain, vomited blood. Died 6 months after operation.
,,	M. P.	53	F.	Vomiting, wasting, 5 months. No HCl. Occult blood in stools. Lump	Universal cancerous nodules. *Nil* done	Died on 13th day.
,,	H. B.	60	M.	A little dyspepsia lately. Lump.	Cancer of stomach. *Nil* done ..	Died on 15th day of embolism.
,,	J. P.	48	M.	Flatulence, occasionally vomiting. Losing weight (3 lb. in a week)	Cancer of stomach, with metastases. *Nil* done	Died 3 weeks after leaving.
,,	J. H.	67	M.	Dyspepsia many years. Vomiting and wasting 1 year. Dilated stomach	Cancer of lesser curvature, enlarged glands. *Nil* done	Died 3 weeks after leaving.

GASTRIC ULCER.

(For two further cases, see D. S. and E. K. under Perforated Gastric Ulcer.)

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1902	A. R.	33	M.	Pain and vomiting. Twice in Medical ward. 10 months' duration. Vomited 1 pint of blood 9 months ago. Dilated stomach	Pyloric ulcer, adhesions. Isoperistaltic gastro-jejunostomy c loop	Practically well till 1909. Seen, 4.1911. Now gets great pain, vomiting and hæmatemesis, but is able to work. Quite edentulous.
1903	H. H.	40	M.	Pain and vomiting 8 years. Wasting, weight 8 st. 4½ lb. Dilated stomach for months. Bed, fluids and lavage for weeks; no better	Pyloric constriction, big stomach. 2-inch gastro-jejunostomy, c loop	Quite well until 1909, then, after 2 weeks, pain and vomiting, brought up 2 pints of blood; 2 weeks later faintness, melæna and death. No *post-mortem*.
1904	H. P.	40	F.	Pain and vomiting 3 years, now incessant. Big yeasty vomits. Pylorus palpable. Visible gastric peristalsis, splash. HCl .124 %	Pyloric ulcer, ? cancerous. Gastro-jejunostomy, c loop	Much better at first. Since lost sight of.
1905	M. B.	52	F.	(No Notes.) Pain since she was 14. Now says her life was a misery before the operation, and that she would have died	Large ulcer near pylorus. Gastro-jejunostomy, c loop	Writes, 4.1911: "Perfectly well, can eat anything. I have great cuase to be thankful I had it done. Real lasting relief."
,,	E. J.	23	F.	In misery 1 year with pain. Living on milk and bread. Occasional vomiting. Lump felt. HCl .23 %. Nutrients no relief	Large mass in pylorus. Gastro-jejunostomy, c loop	Relieved at first, then vomiting severely. Lost sight of.
,,	E. C.	54	M.	Always dyspeptic. Pain 12 months, no relation to food. Frequent vomiting. Requires morphia. HCl .09 %	Marked thickening and adhesions of pylorus. Gastro-jejunostomy c loop	Lost sight of.

GASTRIC ULCER (*continued*).

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1906	F. C.	20	F.	Twice in Medical Ward (1903, 1906) for pain, vomiting, and hæmatemesis (once). Thickening of pylorus felt; tender	Large mass about ulcer of pylorus. Gastro-jejunostomy	Writes, 4.1911: "The operation has given me real relief, and I can now take ordinary food without trouble." No pain or vomiting.
,,	A. E.	43	M.	Dyspepsia 12 years, constant pain and daily vomiting 6 weeks. Very wasted. HCl .19 %. Lavage gave slight relief	Thickened pylorus, dilated stomach. Gastro-jejunostomy	Gained 11 lb. in a month. Writes, 4.1911: "Since the operation I have been *quite* well." No pain or vomiting; takes any food.
,,	E. L.	27	F.	Pain, vomiting and hæmatemesis 5 years. Great pain and vomiting 3 days; tender. Pulse 120, getting worse. Jaundice. Diagnosed as bleeding on perforation. Admitted very ill	Explored, old ulcer found. Patient dying. *Nil* done	Died under 24 hours.
,,	W. B.	56	M.	Pain 2 hours after food, frequent vomiting, wasting. Ill 1 year. HCl deficient, sarcinæ, lactic acid present	Diagnosed as cancer of the pylorus. Pylorectomy with end-to-end union	Died 1 hour later. Proved to be ulcer by microscope.
1907	K. S.	46	F.	Old Medical in-patient. Pain 1 hour after food, constant vomiting. Ill 12 months	Ulcer of lesser curvature. Gastro-jejunostomy, c loop	Writes, 4.1911: "The operation has given real relief. I was never better in my life." No pain or vomiting.
,,	J. R.	49	M.	Pain and vomiting 12 years; now vomits everything. Lost 2 stone. Dilated stomach	Old ulcer of pylorus. Gastro-jejunostomy	Writes, 4.1911: "Has given me permanent relief." No pain or vomiting, eats ordinary food.

,,	L. D.	18	F.	Pain and vomiting 3 years. Tender spot in epigastrium. Dilated stomach	Pyloric ulcer, great narrowing. Antiperistaltic, no-loop, gastro-jejunostomy	Gained 9 lb. in a month. Writes, 4.1911 : "No pain or vomiting since. Takes ordinary food. Has developed Graves's disease.
,,	E. T.	54	F.	Pain 2 years, several times vomited blood. Frequent vomiting. HCl deficient	Lump in pylorus, suspected to be cancer. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911 : "The operation was a perfect success." No pain or vomiting. "Can take any food and thoroughly enjoy it."
,,	A. M.	21	F.	Pain, vomiting, dilated stomach for years. Has had appendicectomy, and kidney fixed twice	Scar in pylorus. Gastro-jejunostomy	Writes, 4.1911 : Perfectly well for 1½ years, now gets vomiting about once in 2 months. Diets carefully, rests in bed when ill. Great relief on the whole.
1908	F. L.	25	F.	Pain and vomiting 3 years. Old in-patient. Weight 5 st. 7 lb. Lump felt	Mass near pylorus. Gastro-jejunostomy	Died a year later after diarrhœa for 8 weeks.
,,	A. W.	35	F.	Pain and vomiting many years. No dilatation of stomach found	Pyloric stenosis. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911 : "Real relief at once, thoroughly successful." Can eat anything.
,,	T. B.	41	M.	Pain 2 hours after food for 3 years. Once vomited. Tender	Pyloric ulcer. Gastro-duodenostomy	Writes, 4.1911 : "Relieved for 6 months, pain since. Lives on bread and Benger's. Not improved.
,,	T. N.	46	M.	Dyspepsia many years, now copious vomits. Tenderness. Great pain after meat	Ulcer of cardiac end. Gastro duodenostomy	Not much better. Lost sight of.
,,	P. R.	27	F.	Pain just after food and vomiting 6 years. Hæmatemesis 3 years ago. Out-patient 4 years. Tenderness. Dilated stomach	Pyloric ulcer. Gastro-duodenostomy	Writes, 4.1911 : "I cannot tell how grateful I am for the operation. Perfectly cured." Takes any food without trouble.
,,	T. S.	48	M.	Pain and hæmatemesis 1½ years ago in General Hospital. Now pain and vomiting, with a little blood, 2 months	Ulcer near pylorus. Antiperistaltic, no-loop gastro-jejunostomy	Better at the time, since lost sight of.

GASTRIC ULCER (*continued*).

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1909	H. T.	27	M.	Pain, especially at night, vomiting. 7 years ago had hæmatemesis. Had appendix removed. Stomach washed out, no benefit	Ulcer on pylorus. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Going on all right since." Takes ordinary food. No symptoms at all.
,,	M. D.	32	F.	Vomiting and repeated hæmatemesis for 8 years. In various hospitals. Lavage no benefit.	Ant. wall scarred. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Real relief after many years of suffering." Eats anything. No symptoms except flatulence.
,,	A. H.	43	F.	Pain, vomiting. In Westminster Hospital. Lavage no benefit. Very dilated stomach. Free HCl present, lactic acid, Oppler-Boas bacilli	Ulcers on pylorus, and greater curvature, Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Real relief." Has no symptoms, and eats anything.
,,	G. M.	33	M.	Perforated pyloric ulcer 6 months ago. Since had pain 1½ hours after food, vomited twice. Stomach not dilated	Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Now better than for some considerable time, and still improving." No relief at first. Fulness after meals, especially if large. Avoids meats.
,,	E. E.	49	F.	Dyspepsia 3 years. Vomited blood 1 year ago, and again yesterday	Cardiac ulcer. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "I do not vomit or get any pain worth speaking of." Care in diet. "Real relief." Still improving.
,,	F. H.	36	M.	Perforated ulcer of ant. wall 10 months ago. Since vomiting, losing flesh, a little pain	Antiperistaltic, no-loop gastro-jejunostomy	Seen, 4.1911. No stomach symptoms since. Well nourished. Eats anything. Has lumbago.
,,	E. W.	42	F.	Dyspepsia for years, severe pain 3 weeks. Lump felt, stomach dropped and dilated	Ulcer excised. Path. report non-malignant	Writes, 4.1911: "Very much better. I occasionally get bad attacks of indigestion." Can usually take ordinary food.

,,	M. B.	26	F.	Pain just after food 10 years, in hospitals. Vomited blood 3 times years ago. HCl deficient	Hard pyloric ulcer. No-loop gastro-jejunostomy	Writes, 4.1911: "Relief for a few months." Now gets pain and vomiting. Diets carefully.
,,	T. E.	62	M.	Pain 30 years, has to rest after meals. Vomited blood 10 years ago. No vomiting. HCl present	Ulcer of post. wall, excised. Path. report simple	Writes, 4.1911: "No better, often vomits, lives on soft food. Laparotomy in Bridgwater, no relief.
1910 (June)	K. C.	43	F.	Has had nephrorrhaphy. Pain 4 months, vomited everything since admission. Dilated dropped stomach	Pyloric ulcer. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Vomiting returned after a fortnight. Not much pain."
1910 (Mar.)	J. H.	36	M.	Pain 2 hours after food 12 years. Vomits daily. One large hæmatemesis. Dilated stomach. Lavage 2 years	Pyloric ulcer, nearly perforated. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Real relief." Is "in splendid health." Takes ordinary food, no symptoms.
1910 (June)	H. W.	50	F.	Old dyspeptic. Severe pain and frequent vomiting 1 year. Wasting. Lives on slops	Pyloric ulcer. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: Is quite cured, and eats anything.
1910 (April)	E. H.	49	F.	Pain, vomiting, wasting 6 months. Twice vomited blood. Melæna now. HCl present	Ulcer in lesser curvature. Isoperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: Complete success. Takes ordinary food, and works well.
1910 (Feb.)	E. S.	27	M.	From Medical ward. Pain 2 years; three attacks of hæmatemesis, last 7 weeks ago	Pyloric ulcer. No-loop gastro jejunostomy	Writes, 4.1911: "Real relief." One attack of slight indigestion since, now well. Edentulous.
1910 (Dec.)	A. B.	35	F.	Violent pain 1 hour after food, vomiting frequently. Dilated stomach	Ulcer of ant. wall. No-loop gastro-jejunostomy	Seen 5.1911. Quite free from symptoms, takes ordinary food. Operation "most successful."
1910 (Oct.)	M. B.	41	F.	Dyspepsia 2 years, vomiting daily, wasting. Living on slops. Lump felt. Enormous stomach	Two hard ulcers, one in pylorus, one in lesser curvature. ? Cancer. Isoperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Cured, no pain or vomiting, can eat anything. Getting fat."
1910 (Nov.)	E. G.	39	F.	From Medical ward. Hæmatemesis, 1 quart. Pain after food 1 year	Pyloric ulcer. No-loop gastro-jejunostomy	Writes, 4.1911: "A little pain sometimes, but I have not found anything of the old trouble since.
1910 (Jan.)	N. J.	29	F.	Pain 1 hour after food, relieved by food. No vomiting. Pain has been very severe. Mass near umbilicus (found to be adhesions). Free HCl present	Pyloric ulcer. Gastro-duodenostomy	Lost sight of.

SYMPTOMS OF GASTRIC ULCER: NO ULCER FOUND.

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1903	J. G.	54	M.	From Medical ward. Continual copious vomits. Losing weight. Lavage useless	Dilated stomach. Gastro-jejunostomy	"Better than for years," when he left. Lost sight of.
1904	S. P.	30	F.	Recurring attacks of pain and vomiting 6 years; vomited much blood 2 months ago. Pain just after food. In several hospitals. Vomiting becoming incessant. HCl 0.03 %	Isoperistaltic, gastro-jejunostomy with loop	Great relief until 1909, when she came in again for vomiting. Band of adhesions divided. Anastomosis admitted 3 fingers. Writes, 4.1911: "The operation did me a lot of good." Gets pain and sickness if she takes meat or vegetables, not otherwise.
,,	J. S.	27	F.	Pain 10 minutes after food. Vomited blood 6 times. Ill 8 years. No solids for months.	Isoperistaltic, gastro-jejunostomy with loop	Little relief for 6 months, then all symptoms returned. Had appendix removed in Bath. Is now, 4.1911, rather better, does not vomit. Gets some pain. Cannot work much, chronic invalid.
1906	R. W.	30	F.	Dyspepsia 12 years. 5 years ago in bed a month for severe vomiting. Frequent vomiting since, 2 hours after food. Some pain	Pylorus ? a little thickened. Gastro-jejunostomy	Relieved at the time. Lost sight of.
,,	C. G.	37	F.	Pain soon after food and vomiting for 16 years. Vomited blood 8 years ago. Vomiting 10 times in a day, severe pain	Gastro-duodenostomy	Writes, 4.1911: "Did me much good for some months" (about nine). Now gets about 2 attacks a year of severe pain. "Most careful as to diet."

,,	F. A.	45	F.	Pain for 6 years, prolonged rest in bed several times. No vomiting. Movable kidney	Some gastroptosis. Finney's operation, gall-bladder explored	After 24 hours was given peptonised milk. Began to vomit blood, which went on for 16 hours till she died. *Nil* at *post-mortem*.
,,	A. H.	32	M.	Was in Medical ward 4 years ago for pain, diarrhœa, and vomiting blood. Another attack a year ago. Now a third attack. Costive, pain, a little hæmatemesis	Stomach rather distended. Antiperistaltic, no-loop gastro-jejunostomy	Well for 9 months, then pain and vomiting recurred. Has had syphilitic rupia and laryngitis since. Seen 4.1911. Still some trouble, but considers operation relieved him.
1907	A. S.	37	F.	Hæmatemesis 9 months ago, in bed 6 weeks. Now dyspepsia and vomiting. HCl deficient, lactic acid present	Gastro-duodenostomy	Writes, 4.1911: Cured, has better health now than ever in her life. No pain or vomiting. Avoids meat and vegetables.
,,	E. G.	42	M.	Treated as gastric ulcer at General Hospital and in Medical ward for recurrent attacks of vomiting and hæmatemesis. Ill 6 years	Antiperistaltic, no-loop gastro-jejunostomy	Not improved. Was in Medical ward in 1909 for gastric crises of tabes. Now in imbecile ward at Eastville Workhouse.
1907	J. M.	32	M.	Pain and vomiting 1 year. Hyperchlorhydria	Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "The operation made a new man of me." No symptoms since. "Can eat anything and enjoy it."
1908	K. F.	28	F.	Vomited blood in 1904. Vomiting and hunger-pain for 2 years. Weight 6 st. 12 lb.	? Scarring of pylorus. Antiperistaltic, no-loop gastro-jejunostomy	At first better. Writes, 4.1911? Vomits every fortnight, once a little blood. No pain. Diet very restricted. Weight, 7 st.
1910 (Dec.)	E. T.	34	F.	Attacks of pain and vomiting. On low diet, but still has pain. Dilated dropped stomach	? Thickened pylorus. Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: No pain or vomiting, better. Still some "indigestion after food." "Keeps catching cold."

DUODENAL ULCER.

Year.	Initials.	Age.	Sex.	Symptoms.	Treatment.	End-Results.
1905	A. R.	45	M.	Dyspepsia many years. A year ago, and again 4 months ago, prolonged attacks of vomiting and hæmatemesis. Continues to vomit on nutrients	Isoperistaltic gastro-jejunostomy, with loop	Died on 6th day unexpectedly. A little pericarditis and perihepatitis; œdema of the lungs at *Post-mortem*.
1908	C. W.	52	F.	In Medical ward for hæmatemesis. Pain, losing weight. Melæna. HCl normal	Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: Quite well, can take anything. No symptoms at all.
,,	J. W.	46	M.	Dyspepsia and vomiting, probably melæna, for 6 months. HCl normal	Gastro-duodenostomy	Relieved at the time. Lost sight of.
1910 (Mar.)	W. T.	27	M.	Pain 2 hours after food for 6 years, relieved by food. Lately vomiting frequently. HCl excessive. On fluids	Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "A splendid cure." Can eat anything. Weighs 11 st. 6 lb.
1910 (Feb.)	J. N.	38	M.	Pain and vomiting for 2 years, at first in attacks, now constantly. Relieved by food. Losing weight. Free HCl abundant. No occult blood in stools	Antiperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Operation has given permanent relief." No pain or vomiting except after stooping or digging. Avoids cooked vegetables.
1910 (June)	W. F.	45	M.	Very severe pain and vomiting 13 months, no relation to food. Once hæmatemesis. Often requires morphia. Explored a year ago, adhesions divided, no better since	Isoperistaltic, no-loop gastro-jejunostomy	Writes, 4.1911: "Has really cured me. Not the slightest pain or vomiting since." Takes ordinary food. Has a cough; was suspected of phthisis.

HOUR-GLASS STOMACH.

Year.	Initials.	Age.	Sex.	Symptoms.	Treatment.	End-Results.
1907	A. H.	35	F.	Pain for many years, worse lately. takes only fluids. Vomited blood 3 years ago. Was in General Hospital for gastric ulcer	Duodenal ulcer and hour-glass stomach. Gastroplasty; gastro-jejunostomy of proximal pouch	Writes, 4.1911: Greatly improved, "very thankful she had the operation done." Still some pain, has to diet carefully. "Real relief."
1908	S. B.	40	F.	Pain 15 years, vomiting. Free HCl present. Stomach dilated	Gastro-jejunostomy of proximal pouch	Died 8 days after of lung complications.
,,	G. B.	35	M.	Pain and vomiting many years, pain just after food. Lavage 6 years. Stomach large	Pyloric obstruction, also slightly hour-glass. Gastro-jejunostomy	For 2 years no better; pain and vomiting are now better. Weight up and down. Diets carefully.
1910	R. H.	35	F.	Always dyspeptic. Vomited blood 5 months ago, in bed ever since with pain and daily vomiting; some blood. Melæna. Has Graves's disease	Extreme hour-glass contraction, large ulcer. Gastro-jejunostomy of proximal pouch	Ulcer perforated some weeks later; operated on, but died. Had been vomiting throughout. *Post-mortem*, phthisis.
1910 (June)	S. W.	42	F.	Always dyspeptic. Vomited blood 21 years ago, and three severe attacks since. Pain for 2 months. No better with bed and fluids	Hour-glass contraction, with ulcer. Gastroplasty, distal gastro-jejunostomy	Writes, 4.1911: Quite cured, eats anything. Only complains of pricking sensation in the scar.
1910 (Oct.)	N. W.	35	F.	Pain, frequent small vomits streaked with blood, not improved in Medical ward by massage, etc. 10 years' symptoms. Diagnosed as hour-glass by X-rays after bismuth	Marked hour-glass contraction. Double gastro-jejunostomy	Writes, 4.1911: Says she is "another woman, and getting fat." No pain or vomiting. avoids meat. Once or twice a little vomiting.
1910 (Oct.)	E S.	22	F.	Always dyspeptic, twice in hospital. Pain 1 hour after food, frequent vomiting. Once hæmatemesis, 1 pint	Gastro-jejunostomy of proximal pouch	Writes, 5.1911: Quite cured, no symptoms at all.

HÆMATEMESIS.

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1907	B. T.	24	F.	After trifling dyspepsia, three severe attacks of hæmatemesis, in spite of bed and only rectal feeding. Desperately ill	Nothing abnormal found. Gastro-jejunostomy	After a severe illness recovered completely. Is now quite free from symptoms. No trouble since operation.
,,	J. N.	68	M.	Vomited blood 3 years ago, and again now. Red blood corpuscles 2,760,000. Losing flesh. No pain	Nothing abnormal except adhesions. Gastro-jejunostomy	Writes, 4.1911: Perfectly well, no symptoms. "Can walk five miles."
1910 (Jan.)	G. K.	59	M.	Severe hæmatemesis and melæna 22 days after operation for perforated ulcer. Old dyspeptic	Gastro-jejunostomy 3 weeks later	Got bronchitis. Writes, 4.1911: Perfectly well ever since. Eats anything.
1910 (Feb.)	F. F.	23	F.	Four previous attacks of hæmatemesis, last in 1908. Was in-patient. Now some pain, followed by repeated vomiting of blood. One large hemorrhage	Nothing abnormal found. Gastro-jejunostomy	Lost sight of.
1910 (May)	D. W.	38	F.	Pain in 2 hours after food, many years; vomiting. In Medical ward for three attacks of hæmatemesis, continuing on nutrients	Nothing abnormal found. Gastro-jejunostomy	Writes, 4.1911: "Operation in every way most successful." Takes any food with no trouble.
1910 (Oct.)	A. A.	32	F.	Pain and a little vomiting 6 months. Was in General Hospital on Lenharz's diet for hæmatemesis. Admitted to Medical ward for another attack. 1½ pints vomited, and more next day	Pylorus rather thickened, ? ulcer. Gastro-duodenostomy	Writes, 4.1911: Relieved as far as stomach symptoms are concerned, but has a painful sinus.
1910 (Nov.)	M. S.	22	F.	Always dyspeptic, severe pain and vomiting 4 weeks. Twice vomited blood in Medical ward	Pyloric ulcer. Antiperistaltic, no-loop gastro-jejunostomy	Seen 5.1911. Some nausea. feeling of tingling in scar after food. No pain or vomiting.

PERIGASTRIC ADHESIONS.

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1907	M. V.	?	F.	Was in for pain and vomiting 14 years ago; suffered ever since. Lump and visible peristalsis. From Medical ward	Adhesions. Large stomach. No ulcer. Gastro-jejunostomy	Relieved. Since lost sight of.
1910	J. B.	44	M.	Pain just after food, and vomiting 1 year. Once vomited blood. Wasting. Dilated stomach	Large stomach adherent to gall-bladder. Gastro-jejunostomy	Relieved, sent to Convalescent Home. Sent back dying of bronchiectasis.

CONGENITAL STENOSIS OF PYLORUS.

Year.	Initials.	Age.	Sex.	Symptoms.	Findings and Treatment.	End-Results.
1907	C. S.	6 weeks	M.	Breast-fed. Constipation, forcible vomiting, visible gastric peristalsis. Pylorus felt once. Treated by peptonised milk, lavage, and Tr. Opii, but got worse. Lost 1 lb. in fortnight	Very thickened pylorus. Pyloroplasty	Did well, put on six ounces in 3 weeks, then ceased to improve, and died from no obvious cause.

Reviews of Books.

History of Medicine. By Dr. MAX NEUBURGER. Translated by ERNEST PLAYFAIR, M.B., M.R.C.P. Vol. I. Pp. x, 404. London: Oxford Medical Publications. 1910.

Of the many valuable works which the directors of the Oxford Medical Publications have brought out, Neuburger's *History of Medicine* stands in the first rank. Books such as this have only too often remained untranslated, and therefore inaccessible to those who do not combine linguistic ability with historical cravings. There is an encyclopædic wealth of information in this first volume, which deals with medicine from prehistoric times to the Renaissance. The scanty vestiges of prehistoric medicine are elucidated and amplified by many illustrations drawn from the habits and customs of contemporary savage man, who in all save chronology is truly "prehistoric."

Thence the author passes in critical survey through the medicine of the East, including the healing art of Mesopotamia, Ancient Egypt, Persia, the Old Testament, India, China and Japan. Next Classic Antiquity comes under review, rich in names of physician-philosophers and philosophic schools, which presently give place to the barren centuries of the decline of Rome. Finally the volume ends with the romance of medicine in the Middle Ages, when philosophy, and with it medicine, wandered in the wilderness like some nomadic Arab tribe. Driven from Byzantium and Alexandria to Syria, thence with Nestorianism from Edessa to Persia and back with the conquering hosts of Islam to the Mediterranean shores, through North Africa to Spain, to Sicily and to Italy, the seeds of our modern philosophy and science were sown broadcast, some to wither on stony ground, some in the lapse of centuries to bear the harvest which our own age has scarcely yet discerned. These were the centuries when medicine itself made little progress until the spirit of science should have cleared the way of progress. Though in Neuburger's words, "Just as occidental Moslem philosophic thought was already imbued with the first breath of that free spirit which was later to sweep over the whole of Western Europe, so did Hispano-Arabic medicine—at least as it took shape in the hands of its worthiest representatives—manifest a certain leaning towards scientific research, a notable tendency in favour of open-minded clinical observation, hand in hand with sceptical rejection of unverified tradition."

So the volume ends, with the beginning of Arabic influence upon occidental medicine and occidental thought, leaving for the second volume the story of the Renaissance and the commencement of modern times. We cannot criticise the book,

we can only revel and admire. Sometimes we miss the comparative touch, we want to be reminded of how the world revolved while medicine was in the making. Has medicine progressed with social evolution? Did it rise and fall with monarchies and republics? How fared it amid the clash of arms or babbling voices of law-makers? Or did it and does it still stand aloof, looking on the struggles of the human race for existence with scientific detachment, self-centred and untouched?

These are no shortcomings in Professor Neuburger's splendid history. He reminds us of our heritage from the ages, until, with Emerson, we feel that "man is explicable by nothing less than all his history," and we want to claim to be freemen of the whole estate. Neuburger writes, indeed, of medicine, but he cannot fetter the thoughts of his readers, and thus, perhaps, his science becomes an art.

The Jews: A Study of Race and Environment. By MAURICE FISHBERG. London: The Walter Scott Publishing Co 1911.

This book is the product of much erudition and thought. The author being himself a Jew, and dealing with his own race, and that the most interesting one, anthropologically and socially, in the history of the world, has naturally the most intense interest in his subject. Moreover, he has a formed opinion on most of the vexed questions therein included, but scrupulously endeavours to be fair, and is careful to produce the evidence against his own view well and distinctly.

The range of his work is very wide, dealing not only with the anthropology and pathology of the Jews, but largely with their history and sociology and the probable future trend of most matters Jewish.

Briefly, his views run counter to the ordinary opinions as to the purity of breed and the permanently differentiated character, physical and moral, of this extraordinary race. He points out that a Jew may be tall or short, blond or brunet, long- or broad-headed; that even the supposed characteristic nose occurs in quite a minority of the people; that in all these respects the Jews seem to approximate to whatever breed of Gentiles they have lived among; and that there is in many cases plenty of evidence of the occurrence of exogamy, and of the conversion and incorporation of considerable numbers of Gentiles. He accordingly ascribes the supposed remarkable capacity for acclimatisation to the fact that there are many Jewish types, not one only.

His chapters on pathological characteristics will naturally be interesting to his medical readers.

He discusses the generally known and recognised comparative immunity of Jews from phthisis, which he thinks must be due chiefly to their having become immune through their having been huddled together in Ghettos or Jewries for so many generations, during which those whose constitutions could not adapt themselves to these horrible conditions must have died out. In this connection he quotes the mortality statistics of the Ghetto of Vienna in 1648–69, when nearly one-third of the deaths were attributed to diseases probably tuberculous. He notes also that immigrants into the United States from the peasantry of Eastern Europe have an " actually appalling " mortality from phthisis when they settle in crowded American cities, while their Jewish neighbours escape, or at worst contract the disease in a slower and more tractable form.

Of diseases or conditions which prevail more among Jews than Gentiles, Fishberg acknowledges several. Such are short-sight and colour-blindness, both probably due to the fact that the Jews are hereditary town-dwellers. Affections of the nervous system are rife among them, as one might expect from the anxious nature of the lives that most of them lead. Epilepsy may be an exception, owing probably to the fact that Jews, so long as they adhere to the dictates of their religion, are comparatively exempt from syphilis and alcoholism. But idiocy, some forms of insanity, hysteria and deafmutism are all confessedly more prevalent, even to a marked degree. As predisposing causes, the over-anxious lives they lead, over-use of the brain and too little of the muscles, and the frequent marriage of near kindred, seem to supply a sufficient explanation. Suicide used to be rare, but its frequency is rapidly increasing under what Morselli calls the " universal and complex influence to which we give the name ' civilisation ' " ; and this is the case both in America and in Western Europe. Diabetes is well known to be particularly rife among Jews, and that not only among the rich but, though to a somewhat less extent, also among the poor and miserable.

During a great part of the last century the Jewish population in most countries appeared to be rapidly increasing, not so much from the high proportion of births as from the small one of deaths, the result in the main of a higher standard of morality and of their avoidance of dangerous occupations. It seemed as though the future of the world was in the lap of the Jews, who not only increased in number but also in wealth, and that to such a degree that they were likely to engross all the wealth of the world and with that the power. But our author shows that the unexpected is happening. The Jew is dropping his religion and intermarrying with Gentiles: moreover the

enormous increase of his wealth is having its usual effect in lessening fertility; and in Western Europe and America, as is the case in prosperous France, the birth-rate is actually falling below the rate of mortality.

Phases of Evolution and Heredity. By DAVID BERRY HART, M.D., F.R.C.P.E. Pp. xi, 259. London: Rebman Ltd. 1910.

Dr. Berry Hart approaches the subject of heredity with the object of examining the weak points in the mechanism of evolution as described by Darwin.

He points out, in Weismann's terms, that the power of variation lies probably in the gamete and not in the soma, and he then quotes Mendelism as explaining the ratio in which characteristics are inherited.

The author suggests an ingenious modification of the Mendelian scheme which illustrates logically the origin of the Mendelian ratio 1 : 2 : 1.

Next he discusses biometry as founded in Britain by Galton and as advanced by Karl Pearson, and he attributes great credit to the work of these men.

To Semon, the author of *Mnemism*, Dr. Hart refers without immoderate criticism, but he suggests that the engram theory is as hypothetical as any of the suppositions of scholastic philosophy.

He next proceeds to describe what is meant by mutation, but he makes no original suggestions as to its causation.

Having thus shortly surveyed the more salient points in the teachings of the different schools of heredity, Dr. Hart goes on in Chapter VII to the important question of heredity in disease, and in this connection he finds consolation in the "purity of the strain in the germ cell and its non-affection by the soma," which accounts for the fact that many diseases formerly thought to be hereditary are not so.

This little book constitutes a short survey of the views which have been expressed by some of the leading authorities on this subject of heredity.

A System of Medicine. By Many Writers. Edited by Sir CLIFFORD ALLBUTT, K.C.B., and HUMPHRY DAVY ROLLESTON, M.D., F.R.C.P. Vol. VIII. *Diseases of the Brain and Mental Diseases.* 2nd Edition. Pp. xii, 1,070. London: Macmillan and Co. Limited. 1910.

This volume differs in several respects from the corresponding volume of the first edition. Diseases of the skin, which were

formerly described in this volume, have been left for a further concluding one.

New articles have been written by Dr. F. E. Batten on Acute Polioencephalitis, by Professor J. Michell Clarke on Recurrent Paralysis, and by Dr. James Collier on Apraxia and Agnosia. Dr. Bastian's article on Aphasia has been revised by Dr. James Collier, while Dr. Head has rewritten the account of the Occupation Neuroses. Dr. Batten has also written a new article on all the forms of Meningitis, with the exception of the tuberculous.

The work is begun by an article on the Experimental Pathology of the Cerebral Circulation, by Dr. Leonard Hill. This is followed by a very excellent and admirably compressed article by Sir David Ferrier on the Regional Diagnosis of Cerebral Disease.

In reviewing a work of this size it is impossible to describe, or indeed even to enumerate all the articles, each of which is written by an authority on his subject.

The latter part of the book is devoted to mental diseases. To this Dr. Savage writes the introduction, in which he discusses the various causes of insanity. Other important articles are written by Dr. Mercier on Vice, Crime and Insanity; by Drs. Shuttleworth and Fletcher Beach on Idiocy and Imbecility; and on the Epochal Insanities by Dr. Clouston. Among many other very excellent articles may be mentioned one by Dr. Conolly Norman on Systematised Delusional Insanity, and an interesting but short contribution by Dr. Milne Bramwell on Hypnotism. It need perhaps scarcely be added that this edition has been brought thoroughly up to date throughout.

The Mental Symptoms of Brain Disease. By BERNARD HOLLANDER, M.D. Pp. 229. London: Rebman Limited.

Dr. Hollander in his preface modestly claims no more than the production of a book which is a summary of existent knowledge as to the functions of the various brain-centres, and a collection of published observations on lesions in relation to these same areas. He has accumulated a large number of cases designed to illustrate the connection of psychical states and capacities with definite brain-centres by means of positive evidence of lesions of them. There is always risk in placing much dependence upon reported cases where their author's tendency may be to endeavour to establish a theory, and thus a good many examples quoted exhibit notable weakness. There is, on the other hand, a large number of cases which in their similarity, and sometimes by the result of operative interference adopted in accordance with the theories advanced,

certainly indicate much in support of the views put forward by Dr. Hollander. We quite agree with him that the least satisfactory results in regard to localisation of psychical areas are now obtainable from experiments on animals, and that the main sources of knowledge are from careful clinical observation and punctilious examination after death. It is deplorable in how many of our asylums for the insane the necessity for this is absolutely lost sight of, the case books, except for the statutory entries, being entirely valueless. Thus pathological findings of great interest are without any clinical record.

We hope Dr. Hollander's work may arouse a proper interest in one of the varieties of investigation without which asylum life is profitless and wearisome. The author shows a thorough acquaintanceship with literature dealing with recent advances in our knowledge of the physiology and pathology of the brain-centres, and he has furnished a lucid epitome of this for his readers. We think his enthusiasm at times occasions him to assume too much, and it behoves those who are interested in this matter to pay attention to negative as well as positive findings. From careful observation of brains, running into thousands, we cannot but feel that in many presenting symptoms as well marked and apparently localised as those quoted by the author there are no such marked lesions to be found; at the same time, we concede that these coarse lesions are only cited to indicate the areas where finer ones may equally be expected.

This book will serve a good purpose in showing the lines upon which further work may be accumulated, and suggesting when and where to look for focal trouble in the brain. The author does not appear to seek much more than this.

Fractures and Separated Epiphyses. By ALBERT J. WALTON, F.R.C.S. Pp. vii, 288. London: Edward Arnold. 1910.

This is a useful book, clearly written and well illustrated with good skiagrams, which will be valuable to those who have to treat fractures either in hospital or private practice. We think the pictures of the various bones, with the lines of fracture, indicated on them, very helpful.

The two extremes of treatment—the method in which splints are not used at all, so warmly advocated by Lucas Championnière, and the method of fixing all fractures by operation—are fully discussed, but we are glad to see that neither is advocated by the author. He, however, very wisely lays stress on the need for early passive movement and massage; but he is not quite clear in expressing his meaning as to the use of splints, for on page 23 he says: "The method of fixing an

injured limb, such as a leg, firmly in splints for three or four weeks is to be strongly condemned." What he obviously means is that during this time massage, and to a certain extent passive movement, should be employed, for he tells us so elsewhere; but surely he does not mean that he would remove a fractured leg, even with a tendency to troublesome displacement, from the back-splint, in order to carry out these measures during the first few weeks, or even allow it to lie with so little support upon it that displacement of the fractured end might occur. What he does probably mean is that he would remove the side splints for this purpose, or, in other words, that he would not keep the limb surrounded by splints so that it could not be reached for massage and passive movement.

His reference to the fact that a slight displacement of the ends of the bones seen in a skiagram is no more than we may expect with the best treatment short of open operation, and is not necessarily followed by a bad functional result, is very important. When surgeons began to examine skiagrams of fractures they had "set" they were very disappointed with the result, and yet again and again, though they could not get perfect apposition, they found that the patient had a very useful limb.

We are glad to see that the author, though he describes the method of treatment which consists in the immediate application of a plaster case to the limb, does not recommend it. Such a case, as he says, cannot be a good fit if it is put on when the limb is much swollen, when that swelling subsides, and if it is put on before the swelling comes on then the risk to the nutrition of the limb is very real.

In writing of the various complications of fracture—a valuable portion of the book—he recommends suture of a ruptured main artery, both in subcutaneous injury and also in compound fracture. In the former it may be very good treatment; but looking at the fact (as he himself admits) that our attempt to render a compound fracture aseptic often fails, and some amount of suppuration occurs, the risk of failure of union of a sutured main artery would appear to us to be too great to make such a proceeding advisable. His account of injuries of nerves in fractures is very good: it is evidently taken from the work of Mr. Sherren, to whom reference is made. We notice that he has forgotten to include analgesia, as well as the loss of the sense of extremes of heat and cold, under the term "protopathic" sensation.

The directions for diagnosis and treatment are given with regard to each fracture. Surgeons differ so much in the exact method they employ for particular fractures that we cannot expect the author to give all of these. He tells us simply the method which he recommends, and generally the reasons why we should adopt it. More than this we can hardly expect in a work

of quite moderate size, which may be regarded as a useful guide in practice. Those of us who have had to treat many fractures may in some varieties prefer other methods of which we have had experience, but the methods advised by the author seem very reasonable, and have probably been well tried in the practice of the London Hospital.

Treatises of Fistula in Ano, Hæmorrhoids and Clysters. By JOHN ARDERNE. From an Early Fifteenth-Century Manuscript Translation. Edited by D'ARCY POWER. London: Published for the Early English Text Society by Kegan Paul, Trench, Trübner & Co. Ltd. 1910.

The temptation to deal at length with this admirable volume is a strong one, but must be resisted on account of want of space. Our readers must be referred to the book itself for a knowledge of the originality and courage of this fourteenth-century surgeon. But not only will the practical surgeon be interested in its study, for there is much to attract the student of the history of medicine, the folklorist, and the philologist.

Arderne's work has been most excellently presented by Mr. D'Arcy Power in a scholarly introduction and with very full notes upon points requiring elucidation. Our thanks are cordially given to him for his careful editing, and to the Early English Text Society for adding this volume to the not inconsiderable number of publications which it has previously issued bearing on various aspects of our professional work.

Local readers may be reminded that the Bristol Public Library contains a fifteenth-century illustrated MS. of the surgical work of Guy de Chauliac, a contemporary of John Arderne.

Movable Kidney: its Etiology, Pathology, Diagnosis, Symptoms and Treatment. By WILLIAM BILLINGTON, M.S., F.R.C.S. Pp. ix, 167. London: Cassell and Company Ltd. 1910.

The author has performed nephropexy upon three hundred and fifty kidneys, and the monograph before us is chiefly based upon the experience gained with these cases. The method of fixation used has been practically the same in all the cases, and is a composite one in which the suggestions of various surgeons have been utilised, and it appears to have been first employed by Mr. Jordan Lloyd. The technique includes partial decapsulation of the upper half of the kidney, and the employment of temporary supporting sutures which are attached to

the capsule of the lower half of the kidney, and a special feature is the fixation of the kidney at the normal height, with the hilum on a level with the twelfth rib where it emerges from beneath the erector spinæ muscle. The author has no knowledge of any case of recurrence of mobility after the operation, nor of any subsequent operation being necessary.

It is remarkable that one surgeon should have operated so often for movable kidney in the space of a few years. In the absence of special contra-indications an attitude towards the operation seems to be taken up analogous to that taken by most surgeons with respect to the radical cure of hernia, with the difference that operation is not quite always recommended. It is recommended when the mobility of the kidney is held responsible for trouble of some kind or other, such as pain in various parts of the body, various disorders of the digestive, urinary or sexual organs, or of the nervous system, including neurasthenia, mental disorders and insanity.

We have found the book interesting and suggestive. Operative technique and the anatomy of the renal regions are lucidly described and well illustrated.

Glandular Enlargement and other Diseases of the Lymphatic System. By ARTHUR EDMUNDS, M.B., M.S., B.Sc. Lond., F.R.C.S. Eng. Pp. vii, 230. London: The Oxford Medical Publications. 1908.

Mr. Edmunds in this work has kept within the limits of practical surgery, and has not favoured the reader with much that is new with reference either to the development or to the anatomical distribution of the lymphatic system. He lays stress upon the rôle played by this system in dealing with diseases and in the general economy of the organism.

The subject is arranged under pathological headings, the early chapters dealing with acute infections and inflammations of the vessels and glands, and the subsequent sections taking specific and parasitic infections, and finally simple and malignant enlargements of the lymphatic glands.

The pathology of each class of cases is dealt with very clearly, and in such a way as to render the work a valuable help in the task of diagnosing between the many various forms of lymphatic gland enlargement.

A marked feature of the work is the decided way in which it defines the operable from the inoperable case; and another welcome feature is the way in which the difficulties and dangers of extensive operations on glands in the neck are set forth with suggestions as to how best they may be avoided.

The method of treating tuberculous glands by means of vaccines is not supported by any strong or convincing evidence.

In style the book is readable, and in material it will be found to contain much useful information and many very practical suggestions.

A Textbook of Gynæcological Surgery. By COMYNS BERKELEY, M.A., M.D., B.C., and VICTOR BONNEY, M.S., M.D., F.R.C.S. Pp. xi, 720. London: Cassell & Company Ltd. 1911.

This is a new and very handsome work. Its illustrations are throughout extremely clear and of ample number, whilst the coloured plates are of a very high order of artistic merit. The text represents the teaching of the Middlesex Hospital. A detailed account is first given of general surgical technique, which we regard as rather redundant in a book of this description. The method of skin preparation is the old-fashioned routine, involving many changes of lotion. The iodine method is briefly mentioned, and the reader is allowed to take his choice.

The section dealing with perineal operations suffers from an excessive elaboration of detail, whilst the important role of the levatores ani is barely mentioned, and these structures do not appear in one of the eighteen pictures which illustrate this subject.

There is a good account of the different methods of hysterectomy, with a discussion of their several merits. The wealth of illustrations accompanying the account of these operations makes it extremely clear. The book concludes with a very careful account of the after-treatment of operations, post-operative complications, and results.

Outlines of Zoology. By J. ARTHUR THOMSON, M.A. Fifth Edition. Pp. xxi., 855. London: Oxford Medical Publications. 1910.—We are delighted to see the new edition of this valuable textbook. It has a charm which is peculiarly its own, and by reason of this stands out prominently among textbooks as the most suitable to put into a beginner's hands. By this we do not mean that the book is suited only for a beginner's needs, for by the judicious use of different type the author has succeeded in cramming inside its covers more information than is to be found in many a more pretentious book, thus making it a fit guide and companion to more advanced students both in the laboratory and in the museum. In one feature—illustrations—this edition is decidedly superior to its predecessor, not only in quality but also in number. New figures have been added, old figures improved, but some old friends have disappeared. They may have appeared useless, but still they helped many a student over a difficult point. In addition to a

thorough revision of the general portion, numerous groups have received a fuller treatment, *e.g.* Protozoa, Cœlenterata, etc. Several of the less well-known forms—we mention a few only—Phoronis, Pycnogonum and Cephalodiscus, have been treated more fully, and so adequately illustrated by diagrams that they represent now more than mere names to the student. The last, though in our opinion not the least important, feature is that the author has begun to treat the vertebrates on a slightly more generous scale, although he has not yet given the amount of space and the number of illustrations that are necessary if the textbook is indeed to be a "manual which students of zoology may use in the lecture room, museum and laboratory."

A Manual of Surgical Anatomy. By CHARLES R. WHITTAKER, F.R.C.S. (Ed.). Pp. x., 248. Edinburgh: E. & S. Livingstone. 1910.—The author tells us in his preface that this work is designed to give the main outlines of his subject. This object he has certainly attained. Although condensed into less than 250 small pages, the essentials of surgical anatomy are presented in a clear and readable form. For its size it covers a great deal of ground, and is thoroughly up to date, as can be seen by the devotion of nearly a page to the parathyroid glands. We are pleased to see that the lymphatic system, so often neglected in works of a like nature, receives its due attention, although perhaps in the case of the lymphatics of the mammary gland a little more detail might be useful. The illustrations, though mainly diagrammatic, are clear and instructive. We can recommend this book to the senior student preparing for his final.

Transactions of the College of Physicians of Philadelphia. Vol. xxxi. Philadelphia: W. J. Dornan. 1909.—A well-printed volume of 750 pages containing the papers read during the year must be of value not only as a reminder to those who heard the reading of the papers, but to a much larger body of readers to whom they are new. Dr. James Tyson, the President, regrets that the volume is not further enlarged by the inclusion of papers read before the sections, but that the absence of sufficient funds makes their inclusion impossible. A noteworthy portion of the volume consists of the memoirs of recently deceased Fellows of the College—John Hooker Packard, M.D., William Thomson, M.D., Charles Stewart Wurts, M.D., and Horace Y. Evans, M.D. As one of the biographers remarks of the subject of his memoir, "We are all broader men for having known and loved him. Some of us wonder that we did not better understand his silent influence when here.

"Soft, scentless, feathery flowers of blue
Were in my garden border set;
Beside them, clothed in tender green,
Grew the dear, fragrant mignonette.

"I plucked a spray of blossoms blue,
And kept them with me in my room.
And suddenly I 'came aware
Of faintest fragrance from their bloom!

"I could not think what it might mean,
That such a fragrance I could get
From scentless flowers, until I thought—
They grew beside the mignonette!"

The Medical Annual (1910) has advocated the use of injection of sea-water, as advised by Dr. Robert Simon, of Paris; here also we find a paper by Dr. Theodore de Boutillier on the internal use of sea-water by subcutaneous injection, from which we learn that the practice was suggested by the universally-accepted theory of the marine origin of life, supported by the chemical fact that sea-water and blood plasma contain the same minerals in almost identical proportions. An aseptic isotonic, sea-water has been shown to act very differently from a physiological salt solution, and has given the following results: "Increase of appetite, improvement in cases of constipation, marked improvement in cases of diarrhœa, increase in the quantity of urine eliminated, improvement in insomnia, and relief of functional dysmenorrhœa. In cases of malnutrition, and in some cases of tuberculosis, the gain in weight has been marked. In cases of pulmonary tuberculosis, with cough and expectoration, it has been found that the expectoration ceased, and within a few weeks the cough subsided." We cannot but think that fallacies in observation, or insufficiency of the same, must account for some of these results, and that the method by suggestion or even faith-healing may compete with sea-water to the advantage of the spiritualistic methods. Dr. Martin H. Fischer's prize essay on "The Problem of Œdema" should be studied by all pathologists. It occupies two hundred pages of the book.

The Medical Annual (1911). Bristol: John Wright & Sons. 1911.—The twenty-ninth issue of this hardy annual will maintain the reputation of the series. The publishers may well "watch with parental pride the growth of the book, and the increasing hold it has gained upon the affection and confidence of the medical profession in all parts of the world." The personnel of the editorial staff remains much the same, but we notice a slight increase in the list of contributors, although the size of the volume does not increase. The editor's table, and the list of asylums, hospitals, licensed houses, sanatoria, nursing and other homes are very useful, as also are the very numerous advertisements. The busy general practitioner must be grateful for the annually revised lists of such institutions. We notice that various drug firms are encouraging the use of what they call Sea-Water Plasma, and it is satisfactory to learn that in no

single case have there been *ill results* from the injection of diluted sea-water, *alias* isotonic Sea-Water Plasma.

Medical Guide to German, Austrian, and Swiss Watering Places and Sanatoria. Edited by HAROLD MORRÉ, M.D. Second Edition. Berlin: Eugen Schachtel. 1910.—This booklet is practically a list of many spas, with a table of indications as to the suitability of particular spas for particular diseases. We notice that Arosa is the place for atheromatose, Godesberg for chorea, Ahlbeck for epilepsy, and Dürkheim for leukæmia, etc. The numerous advertisements are quite the most essential part of the book.

The Occurrence of Infantile Paralysis in Massachusetts in 1908. Reported for the Massachusetts State Board of Health by ROBERT W. LEVETT, M.D., and HERBERT C. EMERSEN, M.D. **Infantile Paralysis in Massachusetts in 1909.** (Reprint.) Boston: Wright & Potter Printing Co. 1909.—The epidemic wave of cerebro-spinal meningitis which started in Scandinavia visited the northern portion of the United States in 1908 and 1909. These two reports of the Massachusetts State Board of Health are models of modern methods of research applied to the investigation of an epidemic disease of which but little is known. The reports confirm the findings of recent observers on many important points, such as the infectious nature of the complaint, its low power of contagion, and its origin from a virus so small as to pass through the porcelain filter and to escape detection by the modern microscope. Evidence is brought forward to show that the organism probably gains entrance by the mouth, and emphasis is laid on the diagnostic value of dyspeptic symptoms early in the disease. Lucas's analysis of the prodromal symptoms, and the results of his examination of the blood and cerebro-spinal fluid in the early stages of the disease, are of the highest value, for if any benefit is to be obtained by treatment it is essential that the disease be diagnosed before paralysis sets in. The eight types of the disease are described, and details given of so-called "abortive" cases. Methods of treatment, both medical and surgical, are fully discussed. These reports not only summarise our present-day knowledge of this disease, but they also abound in suggestion for future lines of investigation.

Hæmoglobinuria. By AMBROSE E. L. CHARPENTIER, M.D. Pp. vii., 111. London: Baillière, Tindall & Cox. 1910.—The preface gives us no clue as to the author's reasons for publishing this compilation in the form of a separate book rather than as a contribution to a medical journal. He does not pretend to any original views, being content with a comprehensive survey of the literature of the various forms of hæmoglobinuria, with fairly complete records of several cases which have been

observed by him. Those who are looking into the subject will be glad of the long list of references to the literature with which the book closes.

A Handbook of Intestinal Surgery. By LEONARD A. BIDWELL, F.R.C.S. Second Edition. Pp. xiv., 215. London: Baillière, Tindall and Cox. 1910.—We have here presented in small compass a well-written and clear description of a great variety of intestinal sutures with numerous illustrations. Some useful hints for the teaching of intestinal surgery in class are also given. Some account is included of the principal operations on the stomach, intestines and appendix. It will be noticed that the author is at great pains to limit to the utmost the indications for colostomy. The book concludes with two chapters on the preparation of the patient and after-treatment, not only in hospitals but also in private houses. For those who do not care to keep by them the large textbooks of operative surgery, but who require to refresh their memories of the intricacies of intestinal methods, Mr. Bidwell's monograph will be very valuable.

Pye's Elementary Bandaging and Surgical Dressing. Twelfth Edition. Revised and partly rewritten by W. H. CLAYTON-GREENE, M.B., assisted by V. ZACHARY COPE, M.D. Pp. viii., 235. Bristol: John Wright & Sons Ltd. 1910.—Concerning this well-known and valuable little pocket-book, it need only be said that it has been brought up to date by the inclusion of some account of Bier's treatment, Michel's clips, etc. It ought to be purchased and learnt by heart by every out-patient dresser.

An Introduction to Surgery. By RUTHERFORD MORISON, F.R.C.S. Bristol: John Wright & Sons Ltd. 1910.—This little book of 155 pages has the merit of being something quite unusual. Its distinguished author has resolutely set himself the very narrow limits of a few general principles, and these are dealt with in the briefest possible manner. The illustrations, on the other hand, which are mostly provided by Mr. Pybus, the Surgical Registrar to the Newcastle Infirmary, are lavish, artistic, and exceedingly well chosen. The text, which only professes to be an abstract of Mr. Morison's lectures, is thus condensed, scrappy and uninteresting, whilst the pictures form the most fascinating presentment of the subject that it is possible to imagine. The following are the subjects treated: Inflammation, bacteria, ulcers, gangrene, syphilis, tubercle, malignant disease, hæmophilia, wounds, some affections of the abdominal viscera, the indications for operation and the X-rays.

Hernia: its Cause and Treatment. By R. W. MURRAY, F.R.C.S. Pp. vi, 184. London: J. & A. Churchill. 1910.—This short and readable monograph strives to teach one main

point, namely that for all practical purposes all hernias take place into preformed sacs. The author follows Hamilton Russell, of Melbourne. He argues that a truss cannot cure a hernia, and that there is always left a potential sac. This also applies to direct herniæ, which he thinks start in a congenital pouch, the same being true of femoral, sciatic and umbilical. With regard to infantile hernia, he quotes Russell as saying that the sac is a perfectly normal funicular process, the sac in front being an elongation of the tunica vaginalis owing to its getting "hung up" as it and testis descend. Following on these conclusions, he attributes his success in the radical cure to very complete removal of the sac, and not to any special method of dealing with the fascia and muscles beyond bringing them together with sutures. The patients are usually allowed up on the tenth day, and can get to work in about three weeks.

Enlargement of the Prostate. By C. MANSELL MOULLIN, M.D. Oxon. Fourth Edition. Pp. ix., 176. London: H. K. Lewis. 1911.—To those interested in the surgery of the prostate we commend this excellent manual, based on the personal experience of the writer with a wide knowledge of the subject expressed in a clear manner. The whole range of the normal and pathological states is dealt with, and we may refer to a few points in treatment. For the suprapubic operation the author employs a transverse incision, and he speaks favourably of the perineal operation, which is so little practised in England, and also to some extent of the Bottini operation with the cautery. He advises that all cases should have preliminary preparation before a radical operation is done, and a short chapter on the choice of treatment may be read with advantage. An ideal mortality of only 5 per cent. should be aimed at, which is only likely if the bladder and kidneys have not already been damaged beyond repair by the indiscriminate employment of catheters.

Le Village Sanatorium. Paris: L'Enseignement Médico-Mutual International. 1910.—This contribution to the study of sanatoria by an architect, H. G. Richter, is prefaced by the Countess of Aberdeen, to whom the booklet is dedicated. As a result of the conjoined efforts of the physician and the architect, we have now established the Sanatorium Hotel, the Sanatorium École, the Sanatorium Maison de Santé, the Sanatorium Maison de Campagne. The author wishes to add, and proposes plans for, Le Village Sanatorium, and further Le Village des Guéris.

Physiological Principles in Treatment. By W. LANGDON BROWN, M.A., M.D., F.R.C.P. 2nd Edition. Pp. vii, 392. London: Baillière, Tindall & Cox. 1910.—We are glad to see that a second edition of this excellent little book has been called

for in the short space of two years, as it appears to us a happy augury for the future of medical treatment, and a reassuring index of the interest in the scientific principles which should underlie it, among the practitioners and senior students of medicine. The second edition has been brought up to date by the inclusion of new work on the movements of the stomach, endogenous purins, auto-intoxication from the intestine and irregular cardiac rhythms, and on various other minor details. The index has also been extended, which we regard as a very valuable improvement. In reviewing the first edition we congratulated both the author on his book and the practitioner on having the opportunity of reading so excellent a treatise, and we cannot do more than say that while all those who have read the first edition will not hesitate to buy and read the second without any words of advice from us, to those who omitted to acquire the older volume an opportunity is now given of obtaining it in a distinctly improved form which we hope they will on no account neglect. We sincerely hope that the second edition of this useful and eminently readable book will be exhausted in a still shorter period of time than the first.

Studies on Thyroid. I. *The Relation of Iodine to the Physiological Activity of Thyroid Preparations.* By REID HUNT and ATHERTON SEIDELL. Pp. 115. Washington: Government Printing Office. 1909.—This pamphlet forms No. 47 of the valuable bulletins published by the Hygienic Laboratory of the Public Health and Marine Hospital Service of the United States, and is characterised by the same detailed methods of experiment and description which are found in the other numbers of this useful series of publications. Following on a succinct and lucid historical introduction, the authors point out that some investigators hold that the activity of the thyroid is dependent on and directly proportional to the amount of iodine it contains. Others deny this relationship entirely, and believe that the iodine content is unimportant, while a third group believe that though iodine content and physiological activity vary concomitantly, the former is not causally related to the latter. After a discussion of the evidence for these views, they go on to explain their methods for testing the claims of iodine to be regarded as causally related to the physiological activity of the thyroid. These consisted of observing the effect of iodine-containing thyroids and others containing no iodine on the resistance of animals to certain poisons. A number of animals of different kinds were used, and the experiments were varied in all sorts of ways: animals were fed with various iodine preparations, and the amount of iodine in the thyroid thereby increased. The authors show that resistance to certain poisons such as acetonitrile and ethylene cyanide is

increased, whereas to morphine, heroine, codeine and chloral-hydrate it is diminished. In the case of a large number of poisons no effect was noted. Iodine-free thyroid was shown to be less potent in its action than iodine-containing thyroid. In Part II the authors discuss the nature of the relation between iodine percentage and the physiological activity of the thyroid, which they consider as the result of their experiments to be a causal one. Animals fed for a short time with iodoform or potassium iodide show an increased iodine content in their thyroids, which are also more active is producing resistance to acetonitrile when given to other animals. Full details of all the experimental work are given by the authors, and the system of controls seems to have been very thoroughly carried out.

Uric Acid in the Clinic. By ALEXANDER HAIG, M.A., M.D., F.R.C.P., assisted by K. G. HAIG. Pp. 306. London: J. & A. Churchill. 1910.—This book consists of clinical notes of nearly 400 cases of various conditions considered in the light of the author's well-known views on the subject of uric acid. It is, he tells us, a clinical appendix to his larger work, showing the basis on which his theories were formed and elaborated. How many are the ailments with which in his opinion the "uric acid" factor is connected may be seen from the list of diagnoses, which range through "headache," epilepsy, neurasthenia, "mental depression," asthma, chlorosis, "dyspepsia with weak heart," chorea, neuritis and neuralgia, Bright's disease, glycosuria and diabetes, "high blood pressure," Graves's disease, chronic and acute arthritis, bronchitis, and dermatitis, together with a group of seven cases labelled "abdominal" and six others "miscellaneous," among which, however, we have *not* found enlargement of the prepatellar bursa. In all cases with remarkable ingenuity and persistence the author traces the symptoms to the presence of uric acid, and his invariable prescription is a uric acid free diet, or speaking generally the exclusion of meat. Although the purine bodies may advantageously in certain cases be diminished or excluded altogether from the diet, we cannot help feeling that the author of this volume proves too much, and that the theory he holds is not always built upon the clinical observations, but rather that the latter are merely interpreted in the light of his preconceived opinions. For instance, he regards chlorosis occurring in young girls as due to the circulation of "colloid uric acid" in the blood, brought about by the consumption of meat and tea. However, a "uric acid free" diet is of no avail in clearing up the condition, but iron salts being "retentives"—that is, forming insoluble compounds with uric acid—do good by preventing its circulation in "colloid" form. In spite of many examples of this kind of

reasoning, the book, like all collections of notes from actual cases, forms interesting reading, and with due reservations instructive reading also. There is a good index, and a short preliminary chapter intended for those who have not read the author's larger work.

Practical Guide to the Diseases of the Throat, Nose and Ear. By WILLIAM LAMB, M.D., C.M. Second Edition. Pp. xvi, 322. London: Baillière, Tindall and Cox. 1909.—A few years ago we favourably noticed the first edition of this work. In the present edition the sections on diagnosis have been expanded and new sections on treatment added. The author's style is interesting and lucid, the subject-matter is dealt with in an eminently practical manner, and the illustrations are good and sufficient. We know of no better manual to place in the hands of those beginning the study of diseases of the throat, nose and ear.

Operations on the Ear. By B. HEINE. Translated from the Second German Edition by W. LOMBARD MURPHY, M.B., B.C. Pp. xi, 204. London: Baillière, Tindall and Cox. 1908.—In Vol. XXII (1904) of this *Journal* we reviewed the first German edition of this book, and expressed the very favourable opinions we had formed of its merits. In the present translation of the second edition the chapters on Labyrinthine Suppuration and Meningitis have been rewritten by the author, and many other sections considerably expanded. The book is a most readable one. Not only is the technique of the usual aural operation well described, but the indications for the various procedures, the after-treatment, the results to be expected, and the possible dangers are fully and judiciously considered. For example, the sections on Ligature of the Jugular Vein, and on the Indications for Operation upon the Labyrinth, and for Operation in Meningitis, are very helpful, and are obviously the outcome of a careful study of the problems at issue in the light of experience gained in the large clinic of Professor Lucae. We should have liked some illustrations of the technique of labyrinthotomy, and we hope in a future edition to find the researches of Bárány discussed in greater fulness. The work has been excellently translated, and deserves the careful attention of all surgeons likely to be called upon to operate for aural diseases and their complications.

Otitic Cerebellar Abscess. By Dr. HEINRICH NEUMANN. Translated by RICHARD LAKE, F.R.C.S. Pp. 156. London: H. K. Lewis. 1909.—Dr. Neumann has collected 336 cases of temporal abscess and 196 of cerebellar abscess from the literature of the subject and from the records of Professor Politzer's clinic, all the cases having occurred since the year 1900. In the second part of the book an abstract of the histories of

165 cases of cerebellar abscess is given. In the first part the subject-matter is divided into sections on Statistics, Ætiology, Pathological Anatomy, Symptomatology, Diagnosis and Operative Treatment. As the author says, the diagnosis of otitic cerebellar abscess presents as a rule great difficulty. The treatment is also difficult. The latter fact is well proved by the writer's statistics, which show that only about one-fourth of the recorded cases were treated successfully. We consider this monograph to be a valuable contribution to the literature of the subject, and we are glad it has been made accessible to English readers through Mr. Lake's excellent translation.

Hay Fever and Paroxysmal Sneezing. By EUGENE S. YONGE, M.D. Pp. 150. Edinburgh: William Green & Sons. 1910.—The author divides his work into three parts: (1) Hay Fever (Hay Asthma), (2) Paroxysmal Sneezing (Vasomotor Rhinitis), and (3) Idiopathic Rhinorrhœa (Nasal Hydrorrhœa), giving a very complete résumé of the contributions of various observers to our knowledge of these subjects. It may appear a difficult matter to make interesting reading from an historical survey of sneezing, but the author has succeeded here quite as well as in the more practical sections on ætiology, diagnosis and treatment. It is a book to be commended for those who want to know all about these troublesome complaints, and the therapeutic measures that are employed for their relief.

A Textbook of Public Health. By JOHN GLAISTER, M.D., D.P.H. Second Edition. Pp. xxx, 622. Edinburgh; E. & S. Livingstone. 1910.—This textbook, which has been expanded from the second part of the author's former *Textbook of Medical Jurisprudence, Toxicology and Public Health*, and is now issued separately, is a characteristic student's handbook, and contains a great deal of sound information, which will, if duly assimilated, give the student a fairly comprehensive view of the examination scope of Public Health work. Sanitary law has received somewhat full treatment, each subject being accompanied by its appropriate legal provisions, so that the reader may readily grasp the practical application of the law in administration.

The choice of subjects and their treatment is, as a rule, good; but we miss any consideration of food and food values, though the law relating to food is dealt with at some length, and the housing question is scarcely touched. We venture to think that room might be found in a future edition by condensation in certain of the earlier chapters, in which also some of the illustrations are suggestive of the maker's catalogue, and might well be omitted. The Scottish Acts receive due consideration, as well as the English Public Health Acts, which gives the book a wider usefulness though adding somewhat to its bulk. It is well printed and neatly bound.

Public Health. (Catechism Series.) Revised by W. ROBERTSON, M.D., D.P.H. Second Edition. Edinburgh: E. and S. Livingstone. (N.D.)—These five paper-covered volumes of some fifty pages apiece contain, in the form of question and answer, all that the student is expected to know about Public Health at the time of his examination, and all that he is certain to forget immediately afterwards if he relies on this method of preparing himself for that ordeal. The fact that the books are revised by the well-known Medical Officer of the Port of Leith is a guarantee that the answers are correct and well constructed to satisfy the examiners, but we doubt whether the time has not come at which Public Health should cease to be regarded as a troublesome adjunct to the final professional examination to be "crammed" up in the shortest possible time by means of a catechism of this kind. For those students who have given the requisite time and attention to the subject, a few test papers will provide all the experience necessary before entering the examination room; for those who are in a contrary case we do not think that cram books should be provided, and the fact that such books are carefully prepared does not, in our opinion, do anything towards further justifying their existence.

A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Sixth Edition. Pp. 64. London: J. & A. Churchill. 1910.—This useful and well-known publication, issued by the Medical Officers of Schools Association, deals with the whole subject of preventive medicine in schools as regards epidemic disease. Important alterations occur in the present edition in the periods of quarantine and isolation assigned to several diseases, mainly in the direction of shortening them. The rules will no doubt continue, as heretofore, to be regarded as authoritative in the matters with which they deal, and will be adopted by all who have medical care of boys and girls in secondary schools, whether boarding schools or day schools.

Dispensing made Easy. By WM. G. SUTHERLAND, M.B. Fourth Edition. Revised by F. J. WARWICK, M.B. Pp. vii., 102. Bristol: John Wright & Sons Ltd. 1910.—This little book cannot fail to be of service to those who have not yet learnt, but are still required, to dispense for themselves. "It is only by the adoption of systematic methods, by the use of concentrated solutions of solid salts and other time-saving devices and wrinkles, that anything approaching accuracy combined with rapidity can be obtained." In busy club practice rapid dispensing is essential, and this book gives many useful hints showing how this irksome and tedious branch of the general practitioner's duties may best be accomplished. The use of tablets, coated pills and concentrated mixtures has greatly simplified the art

of dispensing, but economy as well as rapidity in dispensing is still necessary in club and parish practice. We commend this book warmly to those who have not established a system of their own in dispensing.

The Treatment of Syphilis by the Ehrlich-Hata Remedy (Dioxydiamido-arsenobenzol). By Dr. JOHANNES BRESLER. Translated by Dr. M. D. EDER. Pp. xii, 123. London: Rebman Limited. 1910.—This is a valuable little brochure embodying a collection of observations on the Ehrlich-Hata antisyphilitic remedy, sometimes designated "606," published in various periodicals. Many different methods of employing the drug are described, and results gratifying or unpleasant are freely set forth. The diverse manifestations of syphilis which have been reported as treated by this remedy are briefly recorded. To any one contemplating the adoption of "606" as a treatment in any particular case the information this pamphlet contains will prove most helpful. Facts only are recorded, without special pleading, and almost without critical comment. The reader is given certain data, from which according to his ability he must form his own judgment. This is fair dealing with a drug that has suffered much at the hands of over-zealous advocates.

Annual Report of the Smithsonian Institution. 1909.—The high standard of interest for which the Smithsonian Reports are so famous is well maintained in the volume for 1909, which contains a wonderful collection of papers describing the progress of modern science in many of its most important branches. The importance of electricity gives this force a prominent position in no less than four of the contained articles, namely: Radiotelegraphy, by Fleming; Progress in Physics, by Thomson; Conservation of Natural Resources, by Douglas; Nitrogen Question, by Munroe. Two interesting accounts of Antarctic discoveries occur side by side—one by Maurice Zimmermann, the other by Shackleton—and as these have been written from the scientific point of view they are comparatively free from the description of privations and horrors by which similar accounts are often marred. "Charles Darwin" is the title of a very readable lecture by August Weismann, and the far-reaching effect of the teaching of evolution is put lucidly and impressively. The author begins by saying that the influence of Darwin's theories on his time and the future cannot be fully appreciated by any person who has not first brought himself to realise the position of science in 1859. Biology, so to speak, sprang into existence as a coherent science only when zoology, botany, and anthropology were linked together by the theory of evolution. Such sciences as ontogenesis, physiology, and anthropology by the light of evolution were completely changed; in fact evolution shed quite a new light on all

the world, both organic and inorganic, and in practical politics this light is now helping to solve the problem of the development of "classes" and their union in the state. A paper by G. Grant MacCurdy, of the Yale University, on the "Antiquity of Man" is especially worthy of notice. It is very exhaustive, and is so written as to present to the reader a varied picture of the life habits of our forbears. The volume, in fact, is replete from cover to cover with interesting facts expressed in the most fascinating manner.

Merck's Annual Report. Vol. XXIII. 1909. Darmstadt: E. Merck. July, 1910. London: 16 Jewry Street, E.C.—This brief and impartial review of the therapeutic acquisitions of the last twelve months has now become a hardy annual, much appreciated by those who read it, and of much value as an occasional book of reference. It contains an excellent résumé of the recent advances in pharmaceutical chemistry and therapeutics, not less than eighty-four pages being devoted to the subject of serum therapy and bacterio-therapeutic preparations. A copy of the book can be obtained by any medical man on application to the London office. We advise all who have not done so to secure a copy and study it. It is interesting to know the names and properties of many new drugs, even if we may not have the opportunity of verifying what is said about them before they become replaced by yet newer ones.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series. Vol. XV. S.—Skin-grafting. Pp. 777. Washington: Government Printing Office. 1910.—The present volume of this most useful publication includes 804 author titles, representing 4,688 volumes and 7,460 pamphlets, in addition to 3,616 subject titles of books and pamphlets, and 28,328 titles of articles in periodicals. As an indication of the way in which recent medical literature has grown, and the need of such a work as this, we may mention that there are sixteen closely-worded pages of references to "serodiagnosis" and "serotherapy," and about nineteen more pages of references devoted to "serum," "serum-agglutinins," "serum-hæmolysis," etc. Each volume of the Index-Catalogue increases our admiration for those responsible for its production, and lays the profession under a further debt of obligation.

Editorial Notes.

British Medical Association, 1911.

THE British Medical Association had a genial welcome at Birmingham, and the accessibility of the meeting-place led to the presence of a very large gathering. Much interest was felt in the remarkable work of the municipality and University and the arrangements of the many local institutions. The city, under the Extension Act, will shortly have nearly 900,000 inhabitants, and has long taken a lead in municipal enterprise. A very interesting history of the Medical School was given in the handbook, starting with the first lectures of Sands Cox in 1825 down to the present arrangements for the control of clinical teaching in the hospitals and the affiliation of the special institutions, which shows the great difficulties which have been successfully overcome. The work and position of the local dispensary was the subject of a paper in the Sociological section. Well-to-do working-men have subscribed largely, and therefore claim the right to the use of the funds which were said to have been intended for the very poor. Indeed, the difficulty of restricting out-patient departments to their proper purposes is as great here as elsewhere. The probable effect of the Insurance Bill on this institution and hospitals generally led to an extraordinary variety of papers. Mr. Neville Chamberlain thought that just as a grant is made to satisfactory Universities, so a grant should be made to voluntary hospitals which do good work. In the address on surgery the conversion of the hospitals into State-managed institutions was pointed to as desirable, while Dr. Lauriston Shaw showed the hopeful future of voluntary institutions, especially if the present out-patient departments are restricted to consultations and special treatment.

Few papers of great general interest seem to have been brought forward. The attack on the undue expensiveness of modern surgical methods will probably lead to much discussion, and the debate on pyrexia without a recognised cause showed

that the subject was one of importance whether it points to some source of hæmolysis or whatever the explanation be.

The various rooms for the meetings of the sections and for the Pathological Museum were under one roof, close to the hall where the general addresses were given and the representative body met. It goes without saying that this was an immense advantage, especially in the tropical weather we experienced.

The exhibition was a little farther off, in Bingley Hall, but the care of the organisers had provided a free service of motors, which were in constant use. Indeed, few cities are so conveniently situated for a meeting and have such spacious halls and meeting rooms close to the hotels and stations. The magnificent Municipal Buildings, where the Lord Mayor gave us a hospitable reception, was within a stone's-throw, and the Coronation illuminations were relighted for the occasion. The only distant function was that at the new University buildings, some two miles away.

The local committee, who were unwearied in their exertions, provided at the Theatre Royal a charming representation of one of Rostand's plays in English verse, and a most enjoyable smoking concert in the Drill Hall. The blazing sun made the numerous garden parties a great attraction, and in the beautiful recreation grounds of Bournville an outdoor entertainment was enjoyed by about one thousand visitors in ideally perfect weather.

The visits to the factories for which Birmingham is famous were not the least interesting things of the week. The B.S.A. works for rifles and cycles, the pen and pin factories, and many others attracted crowds of visitors, while Stratford, Hereford, Droitwich and Malvern ended a memorable week.

* * * * *

Small-pox amongst the Basutos.

The Transvaal Medical Journal (June 11th, 1911) contains an article by one of our old Bristol students (Dr. H. A. Spencer) on "The Practice of Inoculation of Small-pox in Basutoland." He found that a man, about 70 years of age, whom he had vaccinated

on three different annual visits failed to give any positive result. On inquiry it was found that the old man had a very distinct mark of inoculation just above the patella, and he stated that an operation had been performed upon him when a lad just big enough to join his tribe in battle. In many other unsuccessful cases of vaccination it was ascertained that the failure of the vaccination was due to the fact that inoculation in early life had been the practice whenever small-pox was known to be in the country. On further inquiry it was learnt that inoculation was introduced by the Portuguese of the East Coast at the time when it was in general practice throughout Europe. How the inoculation was accomplished forms an interesting story by Dr. Alexander Spencer in the *Journal* above mentioned.

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John Beddoe, F.R.S.

We wish to call attention to our obituary notice (page 284), and also to one of our book reviews (page 257), probably the last which the venerable physician and anthropologist, Dr. Beddoe, wrote. His account of the Jews will be of especial interest as giving the mature judgment of one whose career had given an especial opportunity of forming conclusions on controversial points of this kind.

* * * * *

Royal Commission on Tuberculosis.

The announcement of Professor Koch at the International Congress in London in 1901 that the tuberculous disease of cattle was not the same thing as tuberculosis of the human subject, and that tubercle bacillus found in the tuberculosis of cattle was non-virulent for man, has undoubtedly greatly delayed legislation on the food supply, and has accordingly tended to diminish the rapidity of the decline of mortality from tuberculosis. The conclusions now announced by the Commissioners in their final report will no longer give any excuse for the postponement of measures to ensure a supply of pure milk, and it is understood that steps are being taken to bring about

this result without delay. In this way may be averted the constantly-recurring catastrophe of the transmission of latent bovine tuberculosis to children in early life, which so frequently becomes the origin of cases of pulmonary phthisis in later years.

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Medical Officer of Health.

We wish to congratulate the staff of the Health Department of Bristol on the happy thought which led them to express their appreciation of the valuable services of Dr. D. S. Davies on the completion of his twenty-five years as Medical Officer of Health. Dr. Davies' professional colleagues are delighted to see that such valuable service as he renders the community is fully recognised and acknowledged. We ourselves are often indebted to him for assistance in the *Journal* work.

Notes on Preparations for the Sick.

British Medical Association, Birmingham.—An attractive feature of the exhibit of Burroughs, Wellcome & Co. was the fine collection of medicinal plants grown at the "Wellcome" Materia Medica Farm. These plants are raised under ideal conditions, and their cultivation near the "Wellcome" Chemical Works and under the superintendence of experts has resulted in the selection and maintenance of the strains of each plant best for medicinal purposes.

"Tabloid" "Xaxa" and Caffeine is issued by Burroughs, Wellcome & Co., containing 4 grains of "Xaxa" (acetyl-salicylic acid) and a grain of caffeine. It combines the specific antipyretic and analgesic action of "Xaxa" with the stimulant effect of caffeine on the circulation. It should, therefore, be of value in cases of pyrexia where the heart's action is weak. The diuretic action of the caffeine is also useful in febrile conditions. The dose is from one to five twice or thrice daily.

"Epinine," the remarkable synthetic vaso-constrictor and hæmostatic recently introduced by Burroughs, Wellcome & Co., has now been issued in combination with cocaine hydrochloride. The dose for hypodermic injection for dental purpose is 1 c.c.

Junora.—HUMPHREY, TAYLOR & Co., 45 New Oxford Street, London.—A light, dry wine containing about the same amount of alcohol as a light claret, and an efficient quantity of Lecithin-ovo. The value of the organic glycero-phosphates in the constructive metabolism of the nervous system and of the red corpuscles is well recognised, and this combination with a palatable light wine should be valuable to a large class of invalids and persons who are doing brain work which calls for some nerve stimulant.

We have tested the wine, and found that it appeared to have an invigorating effect, which did much to counteract the exhausting effects of hot weather.

Dr. Voebt's Legumine Biscuits.—WILCOX, JOZEAU & Co., London.—Many attempts have been made to devise a satisfactory substitute for bread, and yet at the same time to provide a palatable, easily digested, nutritious food. The difficulty has been overcome in Voebt's Biscuits by converting the starch into erythrodextrine by means of an excess of diastase, the product is then dried and mixed with legumine or vegetable albumin, this being selected on account of its richness in nitrogen and phosphorus. Test meals prove them to be entirely soluble and readily digested, no trace being found twenty minutes after ingestion. They increase the activity of gastric digestion by stimulating, but not exhausting, the secretion from the gastric glands, with rapid formation of peptones. No fermentation takes place, so leucomains or other toxic products cannot be formed. The biscuits were originally manufactured to supply a long-felt want of a diet suitable for the use of diabetic patients, which was palatable and nutritious, and which the patient would not tire of. They have since been found of great use in all forms of dyspepsia, gastritis, gastralgia, dilatation and atony of the stomach, enteritis, chronic and dysenteric diarrhœa; in fact, whenever it is desirable to have a minimum of solid residue. After convalescence from operations, particularly abdominal ones, after fever and acute illness, their power to build up the muscular system renders them a most appropriate item in a hygienic diet, and at all times when there is a tendency to undue fat formation or to put on weight.

The Library of the Bristol Medico-Chirurgical Society.

EIGHTY-FIRST LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund, or received through the *Journal*.

Bandelier and Roepke *Tuberculin in Diagnosis and Treatment* (Trans. by E. C. Morland) 1909
Bass, G. Dock and C. C. *Hookworm Disease* 1910
Berdoe, E. .. .. *The Origin and Growth of the Healing Art* .. 1893
Box, C. R. .. .. *Post-mortem Manual* 1910
Dock and C. C. Bass, G. *Hookworm Disease*.. 1910
Eden, T. W. .. *A Manual of Gynæcology* 1911
Gee, S. .. .. .. *Medical Lectures and Aphorisms* 1908
Hare, H. A. .. .. *Modern Treatment.* 2 vols. 1911
Hartley, Sir R. D. Powell and P. H.-S. *On Diseases of the Lungs and Pleuræ.* .. .. 5th Ed. 1911
Hirschfelder, A. D. *Diseases of the Heart and Aorta* .. .. .. [1910]
Hutchinson, Sir J. *The New Sydenham Society. Retrospective Memoranda* 1911
Hutchinson, Sir F. Treves and J. *Student's Handbook of Surgical Operations* .. .. 3rd Ed. 1911
Love, J. K. .. .. *The Deaf Child*.. 1911
Melville-Davison, W. *Ships' Hygiene* 1911
Ochsner and R. L. Thompson, A. J. *The Surgery and Pathology of Thyroid and Parathyroid Glands* 1910
Powell and P. H.-S. Hartley, Sir R. D. *On Diseases of the Lungs and Pleuræ* .. .. 5th Ed. 1911
Ricketts, H. T. .. *Contributions to Medical Science* .. .. .. [1911]
Roepke, Bandelier and *Tuberculin in Diagnosis and Treatment* (Trans. by E. C. Morland) 1909
Russell, P. Sargent and A. E. *Emergencies of General Practice* 2nd Ed. [1911]
Sargent and A. E. Russell, P. *Emergencies of General Practice* 2nd Ed. [1911]
Smith, J. S. K. *Lateral Curvature of the Spine and Flat-Foot* .. 1911
Stewart, D. .. .. *The Essentials of Food* 1911
Thompson, A. J. Ochsner and R. L. *The Surgery and Pathology of Thyroid and Parathyroid Glands*.. 1910
Treves and J. Hutchinson, Sir F. *Student's Handbook of Surgical Operations* .. .. 3rd Ed. 1911
Waller, H. E. .. *Theory and Practice of Thyroid Therapy* .. [1911]

TRANSACTIONS, REPORTS, JOURNALS, &c.

College of Physicians of Philadelphia, Transactions of the Vol. XXXII 1910
Hospitals—
St. Thomas's Hospital Reports .. .. .. Vol. XXXVIII 1911
Laboratory Reports of the Royal College of Physicians of Edinburgh Vols. X, XI 1911
Medical Libraries .. .. Vols. III—V 1901–02
Progressive Medicine .. .. Vol. I 1911
Zeitschrift für Urologie .. .. Bd. IV 1910

Obituary.

JOHN BEDDOE, M.D., LL.D., F.R.C.P., F.R.S.

It was only in our last volume (1910, page 359) that we gave a review of Dr. Beddoe's life as gathered from his own *Memories of Eighty Years* (Arrowsmith). He is no longer able to write his own biography, but who could write this better than himself in the life-story he has given us? It becomes our duty to record our appreciation of the work he has done during his eighty-four years, and to express our regret that the record is now closed. He has been called a veteran British anthropologist, and as such his reputation is world-wide as an erudite writer and a brilliant authority on all questions of ethnology and anthropology. But it is more particularly as a physician, and his work in the medical field, to which we would now refer. He was Physician to the Bristol Royal Infirmary from 1862 to 1873, when he resigned his office in order that he might have more leisure for his favourite scientific pursuits. For many years he was one of the leading physicians of the district, and it was a cause of great regret to a large circle of medical and other friends and patients when he retired from his work here and made his home at Bradford-on-Avon, where he died on July 19th, his funeral taking place at Edinburgh on July 22nd, 1911.

He held several other medical appointments in Bristol. The Hospital for Sick Women and Children, the Dispensary in Castle Green, and many other institutions claimed him from time to time as physician or consulting physician, and he was Physician to the Visiting Justices for Gloucestershire. Bristolians have shown their regard for his personality and appreciation of

his work in many ways. A casket presented to him when he retired from Clifton bore the inscription: "A man peculiarly beloved by his brethren: a distinguished investigator of the human race." It will be of some interest to remind our readers that this artistic ebony and bronze casket was greatly the design of our former editor, James Greig Smith, who held in the highest esteem the character and capabilities of him in whose honour the casket was designed.

He was one of the original members of the Medico-Chirurgical Society, and has frequently assisted in the work of the *Journal*. He declined to accept the office of President although invited to take the chair, but on his leaving Bristol he was offered and he accepted the only other distinction the Society could offer—that of honorary member.

Recently on the establishment of the University chairs he accepted the appointment of honorary Professor of Anthropology in the University of Bristol.

Although it is now twenty years since he retired from active medical life, meanwhile he has not been idle, for much of his time was occupied in literary works for various scientific journals. We have endeavoured to compile a list of the more important of these, more or less incomplete; it forms a good memento of a life of great mental activity whose attainments were recognised by most of the Anthropological Societies of Europe.

It will be a source of gratification to Bristolians to be reminded that his portrait, painted by Miss Warne, and purchased by private subscription, is before us in the Bristol Room of the Municipal Art Gallery, where it will be a pleasing memorial of the charming personality of the original for many years to come.

One of his recent literary successes was the Long Fox Lecture, delivered in 1904, when he described and gave illustrations of "The Ideal Physician." The eulogy of his colleague and friend of many years may well be applied to himself as physician, ethnologist, anthropologist, archæologist, naturalist, for he was distinguished in all.

He lived to enjoy the reward which success in such aspirations seldom fails to bring, "Love, honour, and troops of friends." Love and honour remain, and will continue to remain so long as memory shall last.

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"The Kelts of Ireland."—*J. Anthropol.*, 1870–71, 117–31.
"Address to the Department of Anthropology."—*Brit. Assoc. Rep.*, 1873, xliii. 134–40.
"Note on the Walloons."—*J. Anthropol.* 1873, ii. 18–20.
"On the Mortality of Adolescence."—*Brit. Assoc. Rep.*, 1875, 205.
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"On the Mediæval Population of Bristol."—*Ibid.*, 1898, 1013.
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"On the Anthropology of West Yorkshire."—*Ibid.*, 1900, 902.
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HENRY OVERTON WILLS.

WE have to deplore the loss of the first Chancellor of the University, Mr. H. Overton Wills, who died, deeply regretted by his fellow-citizens, on September 4th. His generosity was nowhere more appreciated than by the University of Bristol, not only on account of the liberality of his donations, but also by reason of their timeliness; for it is not wide of the mark to say that his gift of £100,000 came at a time when hopes were beginning to droop.

Mr. Wills's Chancellorship was all too brief, but it lasted long enough to establish the correctness of his judgment that Bristol was ready for a University. His memory will live through successive generations as the chief founder, and though hereafter munificence equal to his may replenish the coffers of the University, it will never be forgotten that he brought the University into being.

HENRY ROBBINS DEW.

THE death of Dr. Dew, one of the oldest practitioners in Bristol, and a Crimean veteran, took place on September 6th, at the age of 75.

He received his professional education at St. George's Hospital, London, became a Member of the Royal College of Surgeons in 1855, and a Licentiate of the Royal College of Physicians of Edinburgh in 1860. He then joined the Army, becoming Staff Assistant Surgeon to Lord Raglan, and serving with distinction through the Crimean War. He was for many years Surgeon to the Deaf and Dumb Institution, the Bristol Lying-in Institution, and the Bristol Eye Hospital. A colleague writes of him as follows:—

"Dr. Dew did good work for many years as Assistant Surgeon to the Bristol Eye Hospital with Dr. Bartley, and in 1882 he became full Surgeon. He was most punctual and regular in his attendance, and was of great service to the Institution at a time when much development in the work done there was taking place. He had a good practical knowledge of diseases of the eye, was a very agreeable and painstaking colleague, and was a skilful operator. In 1887, after twenty years' work at the Hospital, he resigned, but at the desire of the Committee his valuable experience was rendered still available by his election as Consulting Surgeon, which post he retained until the time of his death."

Local Medical Notes.

University of Bristol.

RECENT EXAMINATION RESULTS.

UNIVERSITY OF LONDON.—*M.D. (Midwifery and Diseases of Women):* R. E. Thomas, B.S.

M.S.: Cecil A. Joll, M.B., B.Sc.

Second Examination for Medical Degrees, Part II, M.B., B.S.: H. J. D. Smythe, E. S. Abraham.

UNIVERSITY OF BRISTOL.—*Final Examination:* E. E. Davies, C. A. H. Gee, E. F. Thomas, A. J. Wigmore. *Part I:* M. C. Barber, E. V. Foss, A. G. Hieber, B. J. F. Jackson-Taylor, C. Wintle. *Part II:* S. H. Kingston. *M.B., Ch.B., Second Examination:* R. I. Dacre, C. J. D. May, A. G. Morris.

B.D.S.: W. J. Lennox.

M.R.C.S., L.R.C.P. LOND.—A. G. T. Fisher, H. H. Hiley, V. Pinnock. *Chemistry and Physics:* H. R. W. Husbands, D. Munro Smith. *Materia Medica:* G. S. Terry. *Midwifery:* E. S. Abraham.

L.D.S., R.C.S. ENG.—*Preliminary Science Examination—Physics:* G. M. Hick, A. H. Virgin.

APPOINTMENTS.

Robert Donaldson, M.A., M.B., Ch.B., F.R.C.S. Edin., D.T.M., late Demonstrator of Pathology in the University of Sheffield, has been appointed Demonstrator of Pathology.

A. G. T. Fisher, M.R.C.S., L.R.C.P., has been appointed Demonstrator of Anatomy, vice Dr. Annan resigned.

W. Odell, M.D., F.R.C.S., has been appointed Hon. Consulting Physician, Western Hospital for Consumption, Torquay.

W. H. Symons, M.D., D.P.H., has been re-appointed Medical Officer of Health for Bath.

E. G. Bunbury, M.R.C.S., L.R.C.P., has been appointed District Medical Officer of the Helston Board of Guardians.

Capt. V. B. Green-Armytage, M.B., I.M.S., has been appointed Resident Medical Officer to the Eden Hospital, Calcutta.